GENERAL PLAN

RESOLUTION NO. 2055

Resolution of City Council of the City of Saratoga Certifying the Final Environmental Impact Report for the Revised General Plan

WHEREAS, a Draft Environmental Impact Report was prepared in accord with all applicable State and City Guidelines, and

WHEREAS, said DEIR was noticed in a paper of General Circulation and

WHEREAS, said DEIR was circulated for a period of thirty (30) days in accord with State and City EIR guidelines, and

WHEREAS, said document was made available to the public, and

WHEREAS, the City Council held public hearings on February 2, March 16 and April 6, and

WHEREAS, appropriate written responses were prepared for all comments:

NOW, THEREFORE, BE IT RESOLVED, that the City Council of the City of Saratoga does:

(1) Certify the Final Environmental Impact Report as a complete and adequate document, and

(2) That if the project were completed as proposed, said project would have an impact on the environment.

Passed and adopted by the Saratoga City Council on the 4th day of May, 1983, by the following vote:

AYES: Councilmembers Clevenger, Fanelli, Mallory, Moyles and Mayor Callon

NOES: None

ABSENT: None

Linda Callon

L. Callon
Mayor

THIS IS TO CERTIFY THAT THE WITHIN INSTRUMENT IS A TRUE AND CORRECT COPY OF THE ORIGINAL ON FILE IN THIS OFFICE.

ATTEST 5/5, 1983
CITY CLERK OF THE CITY OF SARATOGA

BY Grace E. Cory
DEPUTY CITY CLERK

Attest:

Grace E. Cory

G. Cory
Deputy City Clerk

RESOLUTION NO.430.2

RESOLUTION OF THE CITY COUNCIL OF SARATOGA

ADOPTING THE GENERAL PLAN

WHEREAS, the Planning Commission of this City has caused to be prepared a revised comprehensive, long-term General Plan for the development of this City, and of land outside of its boundaries which in the said Planning Commission's judgment bears relation to the City's planning, pursuant to Article 5 of Chapter 3 of Title 7 of the Government Code of this State and pursuant to Article 6 of said Chapter and Title, said Planning Commission has considered said plan and held noticed public hearings thereon and has heretofore adopted a resolution approving said General Plan and recommending the same to the City Council, and has transmitted said approved plan to this City Council, and

WHEREAS, thereafter this Council has held noticed public hearings on said plan as required by law, and has suggested certain modifications and changes to certain portions of the General Plan that had been considered by the Planning Commission during the course of its deliberations on the General Plan, and

WHEREAS, pursuant to the Environmental Quality Act of 1970 and the provisions of Chapter 3, Title 14, Division 6 of the California Administrative Code, and Resolution Series 653 of this City, a draft Environmen Impact Report has been prepared and completed and a notice of completion thereof filed with the Secretary of the Resources Agency of the State of California, and more thanforty-five (45) days expiring from the date of said filing, on or about the 4th day of May, 1983, this Council havin

held a public hearing on the proposed final Environmental Impact Report, and thereafter said report having been certified by this Council as final, and

WHEREAS, the City Council acknowledges that adoption of the proposed revised General Plan will have significant effects upon the environment, as identified in the final environmental impact report, and hereby makes the following findings:

(a) Goals and Policies have been incorporated into the General Plan to mitigate to an acceptable level or avoid the significant environmental effects as identified in the final EIR, including the following:

(1) Loss of agricultural lands and open spaces -- the Goals and Policies of the General Plan to be acted upon with appropriate ordinances and actions, will encourage renewal and discourage cancellation of Williamson Act contracts, encourage the use of school sites for recreation, and require exactions from development to maintain and preserve open sapce.

(2) Energy and natural resource use -- the goals and policies of the General Plan, particularly the conservation element, will encourage: the use of alternate forms of renewable energy sources, building designs that conserve energy, use of natural passive heating and cooling systems, tree preservation, minimize water use and degradation, and minimize disruption to soil and topography. These impacts will be further reduced by implementation of existing codes and ordinances.

(3) Traffic increases -- goals and policies of the General Plan encourage the use of energy efficient forms of transportation and use of pedestrian and bicycle trails as alternative transportation modes. There are policies to plan means of reducing traffic impacts and addressing cumulative impacts of certain heavily traveled roads.

(b) The General Plan contains goals and policies and land use designations for land within the sphere of influence of the City of Saratoga designed to mitigate adverse environmental effects of development in that area. However, such lands are within the responsibility and jurisdiction of the County of Santa Clara which, at the present time, has adopted regulations consistent with the General Plan. Other mitigation measures as contained in the General Plan should also be adopted by the County of Santa Clara with respect to these lands.

(c) To the extent that significant environmental effects identified in the final EIR have not been fully mitigated or avoided by the Goals and Policies of the General Plan, such effects are unavoidable since the mitigation of the cumulative impacts identified in the final EIR depend on the actions of other agencies and jurisdictions in regulating or requiring future development, particularly traffic congestion. Thus, no feasible mitigation measures can be incorporated by the General Plan for these impacts since Saratoga's contribution to these impacts is relatively small a such mitigation measures are beyond the scope of the General Plan, a

WHEREAS, after said public hearings hereinabove referred to, this Council considered the final Environmental Impact Report in conjunction with said General Plan, and in evaluating said General Plan and each element thereof, and deeming it in the best interests of this City that said General Plan be adopted.

NOW, THEREFORE, the City Council of the City of Saratoga hereby resolves as follows:

Section 1: This Council hereby finds that due and legal notice of public hearings on the hereinafter set forth General Plan and the hereinabove referred to Environmental Impact Report, have been given as required by law and said public hearings on said General Plan both at the Planning Commission level and at this Council level have been held according to law.

Section 2: The City of Saratoga is divided into twelve (12) planning areas identified by the letters "A" through "L" as shown on Exhibit "A" and have boundaries as described in the chapter on Area Plans which is part of the General Plan (Exhibit "B"). The purpose of these planning areas is to allow the residents of these areas to express the desires and concerns they have about future development in their area. A series of programs or guidelines to guide future development is contained in each area plan. These guidelines are to be used in conjunction with the Goals and Policies of the General Plan to determine what sort of development should take place in a particular planning area of the City. An area plan's guidelines may be overriden if a broader City goal can be accomplished by that override.

Section 3: The revised General Plan consists of the document noted as Exhibit "B" including:

(a) Final EIR incorporated as part of the General Plan

(b) Goals, Policies and Implementation Measures

(c) The nine elements required by Section 65302 of the Government Code.

(d) Area Plans for each of the twelve planning areas of the City.

(e) The General Plan Map dated March 16, 1983 and entitled Saratoga General Plan

(f) Appendices

(1) Basic Data

(2) Summary of the Northwestern Hillside Specific Plan

(3) Text dated June 22, 1973, entitled "Geotechnical Study Seismic Safety Element for the City of Saratoga", prepared by Fugro, Inc. and consisting of a more in-depth study of the seismic safety element.

(4) Text dated April 9, 1974, and entitled "Sphere of Influence Plan" consisting of 32 pages, representing that portion of said General Plan relating to the development of lands located outside of the present boundaries of this City but within this City's sphere of influence.

(5) Initial Environmental Assessment.

(6) Comments and responses to the Draft General Plan/EIR.

(7) The hazard overlay map dated March 16, 1983, and entitled Hazard Overlay Map.

Said General Plan as above outlined be and the same is hereby adopted as the General Plan of this City and all previous General Plans and amendments and additions thereto, are declared to be superseded by the within adopted plan.

The above and foregoing resolution was introduced at a regular meeting of the City Council of the City of Saratoga held on the 4th day of May, 1983, and thereafter was passed and adopted by the following vote:

AYES: Councilmembers Clevenger, Fanelli, Mallory, Moyles and Mayor Callon

NOES: None

ABSENT: None

Linda Callon

MAYOR

ATTEST:

Grace E. Cory

CITY CLERK

THIS IS TO CERTIFY THAT THE WITHIN INSTRUMENT IS A TRUE AND CORRECT COPY OF THE ORIGINAL ON FILE IN THIS OFFICE.

ATTEST 5/5, 19 83

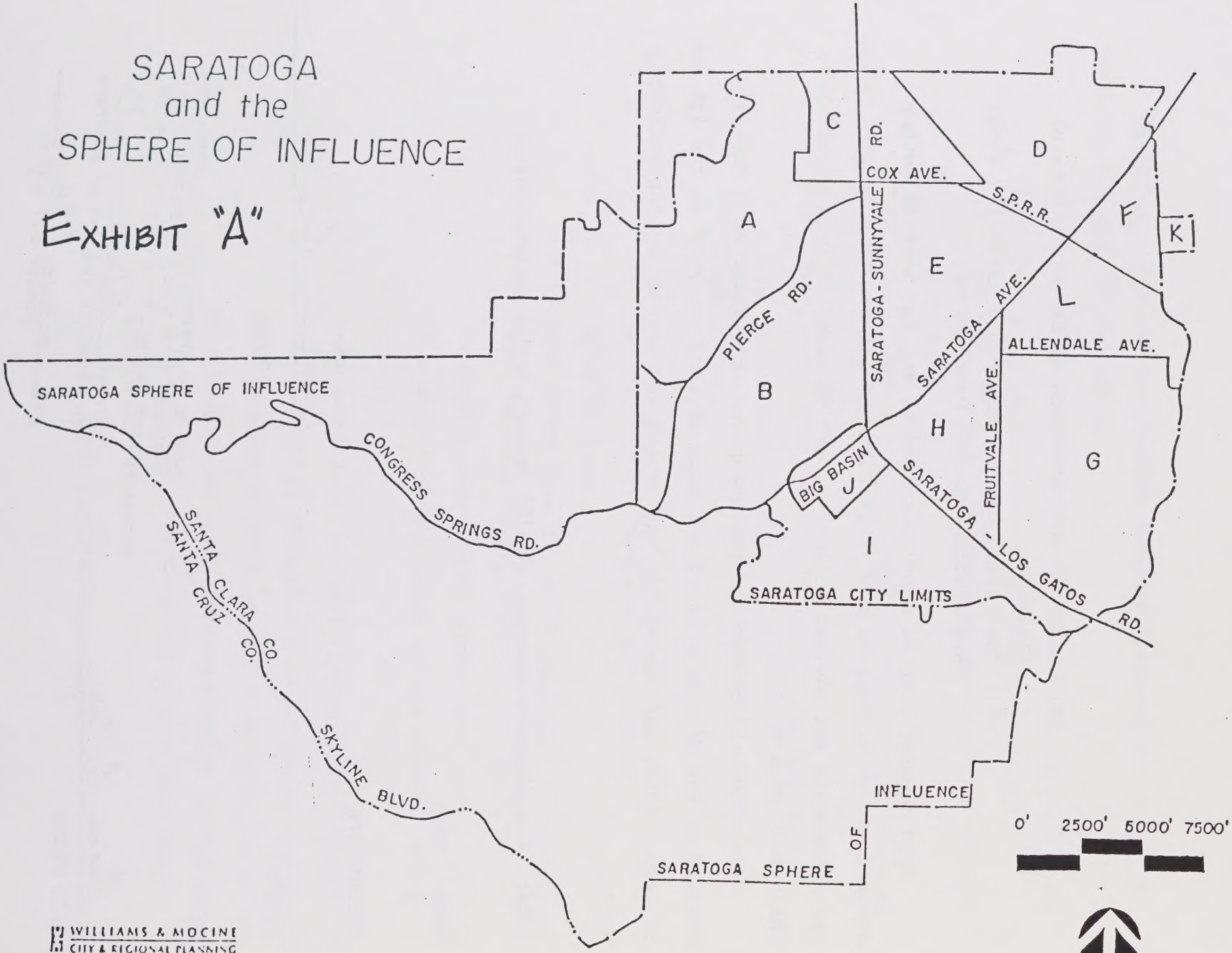
CITY CLERK OF THE CITY OF SARATOGA

BY Grace E. Cory

DEPUTY CITY CLERK

SARATOGA and the SPHERE OF INFLUENCE

EXHIBIT "A"



WILLIAMS & MOCINE
CITY & REGIONAL PLANNING

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C H A P T E R 1

INTRODUCTION

INTRODUCTION TO GENERAL PLAN

The General Plan is the result of more than two years of effort by the General Plan Citizens Advisory Committee, the Planning Commission and City Council. Throughout the process the citizens participated through attendance in neighborhood meetings and public sessions before the Planning Commisssion and City Council. The document represents the wishes and desires of the citizens of Saratoga and will be the basis of future decisions within the City for the next five to ten years. The General Plan is a document that provides citizens, public bodies and staff the needed direction to make decisions about the future development and character of the City.

As stated above, the General Plan is a legal document required by the State of California which is comprised of maps and accompanying text. The General Plan charts the future of the City as expressed by the citizens and consists of goals, policies, action programs, area plans and basic information regarding the City of Saratoga. The plan constitutes the basis for all capital expenditures within the City as well as the annual operating budget adopted by the City Council.

Since the General Plan is the "forward looking" document of the City, the State has defined strict procedures and limitations on amending the Plan. The law clearly states "no mandatory element of a General Plan shall be amended more frequently than three times during any calendar year, which amendment or amendments may occur at any time as determined by the legislative body." (Government Code Section 65461b)

The procedure for amending the General Plan is clearly defined in State law. There must be public hearings held before the Planning Commission and the City Council. The Planning Commission recommends approval of the proposed amendments to the City Council. The City Council is the final approving authority for all General Plan amendments.

The required public hearings are intended to gain as much public input on the proposed amendment as possible. Public notices are published in the Saratoga News ten days prior to the scheduled hearing dates. In the event the amendment is site specific, then all property owners within 500 feet of the subject property receive a written notice in the mail.

The procedure for amending any portion of the General Plan is intentionally lengthy in order to give the residents ample opportunity to express their opinions and concerns. The General Plan is a document developed by and for the residents of Saratoga.

The format of the General Plan was designed in such a manner to allow the citizens to ascertain the guiding goals and policies, without having to comb through the entire document. Chapter 2 is a list of all the goals and policies with a cross-reference of the major issues to the mandated elements. Chapter 3 contains a detailed description of all the elements of the Plan. Chapter 4 of the plan contains the area plans as developed by the area representatives on the General Plan Citizens Advisory Committee and as modified by the Planning Commission and City Council. Area plans allow specific development guidelines to focus on neighborhood concerns. These guidelines are to be used in conjunction with the Goals and Policies of the General Plan to determine what sort of development should take place in a particular planning area of the City. An area plan's guidelines may be overridden if a broader City goal can be accomplished by that override.

The Land Use Map is also an important part of the Plan. The Land Use Map indicates densities for residential development, major circulation patterns, and all land use designations within the City. The City is incorporating overlays depicting flood plains, hazardous fire zones and trails and pathways within Saratoga.

The basic data and background which support the General Plan and the Environmental Assessment are contained in Appendix A. Other important supporting information is contained in the remaining appendices.

SUMMARY - ENVIRONMENTAL IMPACT REPORT

Upon completion of an initial study as required by the California Environmental Quality Act (CEQA) it was determined that the proposed General Plan, which revises the 1974 General Plan might have a significant effect on the environment. (A copy of the initial study is attached as an appendix to this report.) Any project that might have a significant effect on the environment must have an Environmental Impact Report (EIR) prepared. Since many of the impacts and issues addressed in an EIR are also addressed in a General Plan, the State encourages the combination of both documents as part of a single planning process.

Combining the EIR with the General Plan allows the General Plan to be modified as environmental impacts are identified and mitigation measures are developed. The public also can make comments on the EIR through the General Plan public hearing process.

Section 15148 of the State EIR Guidelines requires a combined EIR/ General Plan to address all the points required by Article 9 of the EIR Guidelines and to identify where in the document these points are covered. The description of the environmental setting of the City is contained in the Basic Data and Background section (Appendix A) of theGeneral Plan. The project description, for the purposes of CEQA, consists of the goals and policies section as well as the development guidelines for each of the 12 planning areas. Environmental impacts, mitigation measures, and alternatives are discussed in the Environmental Assessment section.

It should be noted that an EIR for a General Plan will not be as specific as an EIR for an individual development project. State EIR Guidelines indicate that a General Plan EIR should..."Focus on the secondary effects that can be expected to follow from the adoption ..." (Section 15147). The initial study identified three major impact areas associated with the adoption of the General Plan:

1. Impacts on the physical environment due to development of vacant lands especially those in the hillsides. (These impacts have been addressed in the EIR for the Northwestern Hillsides Specific Plan, the EIR's for individual subdivisions in that area, and the Geotechnical Study of the General Plan.)

2. The cumulative impacts associated with development of the vacant or underdeveloped lands in terms of traffic, resource use and energy use.

3. The long term vs. short term use of these sites could also be an issue.

THE EIR for the General Plan can act as a resource document to assess some of the impacts of the individual development projects whic

will follow. However, since the issues addressed in the General Plan are less specific than the issues and impacts associated with an individual land development project, further information and assessment through a mitigated Negative Declaration or a focused EIR may be required.

G E N E R A L P L A N

A N D

E N V I R O N M E N T A L I M P A C T R E P O R T

CITY OF SARATOGA

GENERAL PLAN CITIZENS ADVISORY COMMITTEE

Chairperson - Richard Siegfried

Area A - Dora Grens

Area B - Ian A. Webb

Area C - Joyce Hlava

Area D - Margaret Russell

Area E - J.E. (Bert) Toevs

Area F - Kathy McGoldrick

Area G - Robert H. Swanson, Jr.

Area H - Jo Ann Meggs

Area I - Annie Aird

Area J - Warren Heid

Area K - Greg Nellis

Area L - Link Bradley

Parks and Recreation Representative - Ed Gomersall

SARATOGA GENERAL PLAN REVIEW

INITIAL CITIZEN PARTICIPATION

The General Plan Citizens Advisory Committee held a series of twelve neighborhood outreach meetings, one for each of the planning areas identified for the General Plan.*

The meetings were widely publicized through direct mailings, flier distribution, newspaper articles, public notices, and the cooperation of several civic organizations and schools.

The meetings were located, when possible, in facilities within the planning areas. (See copy of schedule on following page.) Each meeting was conducted by the member of the Citizens Advisory Committee who represented the area; also attending as resource people were members of the Planning staff, City Council, Planning Commission, and Parks and Recreation Commission. Deducting the multiple attendance at several meetings by the resource people, it is estimated that over 650 people attended the twelve meetings.

The Citizens Advisory Committee prepared a questionnaire which was the focus of discussion at the meetings. The questionnaire was designed to solicit community views on a number of identified issues critical to Saratoga's future and also to draw out concerns that the committee may not have presupposed. (See copy of questionnaire, following.) Notes were taken of the oral comments, and attendees were also encouraged to turn in their completed questionnaires. Questionnaires were publicized as available at City Hall and other public locations for citizens unable to attend a meeting.

Following the meetings, each committee member compiled the response from his/her planning area, assembling oral and written comments, and developing a sense of majority and minority views in the area.

The next step in the process was the further compilation by the total Citizens Advisory Committee of the responses from all twelve areas. The balance of this section of the report is the Committee's product. This community input has provided direction to assist the Committee in developing its recommendations for amendment of the General Plan objectives, policies, and programs.

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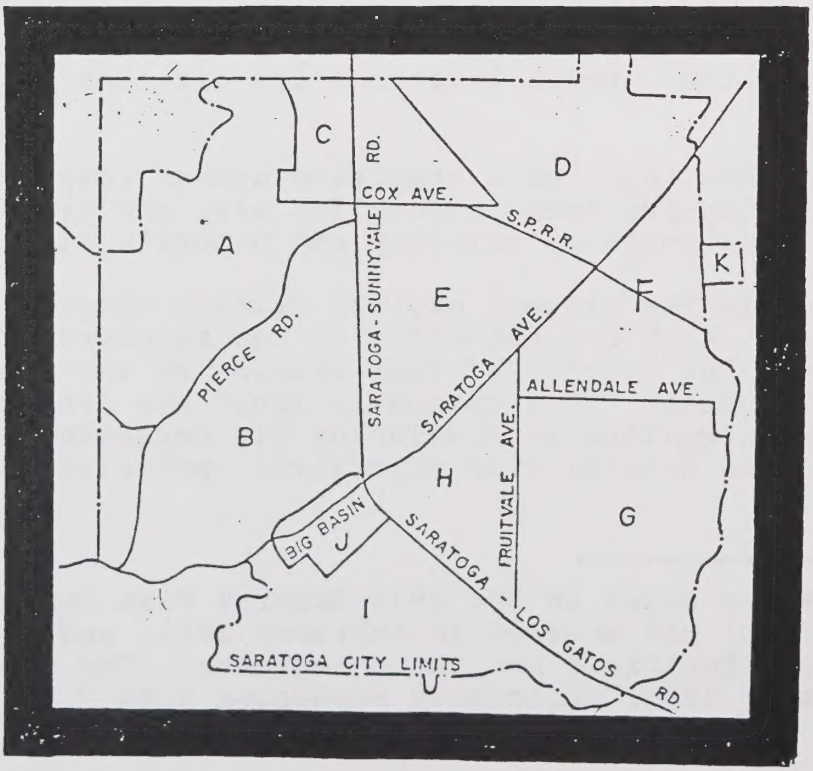
* There were ten areas in the 1974 General Plan Report. Area K (Sunland Park) was annexed in February 1981, and Area F was divided into Kentfield and Quito Segments. The City Council, on October 7, 1981, officially separated Area F.

PLANNING AREA MEETINGS

GENERAL PLAN CITIZENS ADVISORY COMMITTEE

AREA	DATE	TIME/PLACE	
K - Sunland Park	Friday March 27	7:00 p.m.	Community Center Allendale Avenue
J - The Village (from Saratoga Creek to Aloha Avenue)	Monday March 30	7:30 p.m.	Saratoga School Cafeteria 14592 Oak Street
G - Fruitvale - Sobey Road	Monday March 30	7:30 p.m.	Redwood School Library 13925 Fruitvale Avenue
B - Congress Springs - Pierce Road	Tuesday March 31	7:30 p.m.	Foothill School Cafeteria 13919 Lynde Avenue
F - Kentfield (from Fruitvale to S. P. tracks)	Thursday April 2	7:30 p.m.	Redwood School Library 13925 Fruitvale Avenue
C - Blue Hills (from Fremont H.S.D. property to West Valley Corridor)	Thursday April 2	7:30 p.m.	Blue Hills School Media Area 12300 De Sanka Avenue
F - Quito (east of S. P. tracks)	Thursday April 9	7:30 p.m.	Westhope Presbyterian Church Social Hall 12850 Saratoga Avenue
H - Fruitvale West	Thursday April 9	7:30 p.m.	Redwood School Library 13925 Fruitvale Avenue
I - Glen Una	Monday April 20	7:30 p.m.	Saratoga School Cafeteria 14592 Oak Street
A - Mt. Eden (west of Pierce to City limits)	Monday April 20	8:00 p.m.	Foothill School Cafeteria 13919 Lynde Avenue
D - Triangle North	Thursday April 23	7:30 p.m.	Ascension Church Parish Center Miller at Prospect
E - Triangle South	Thursday April 23	7:30 p.m.	Saratoga High School Cafeteria 20300 Herriman



Do You Care About SARATOGA?

WHAT SHOULD SARATOGA DO ABOUT:

- AFFORDABLE HOUSING?
- SURPLUS SCHOOL SITES?
- THE WEST VALLEY CORRIDOR?
- THE VILLAGE?
- AUTOMOBILE CIRCULATION AND OTHER MEANS OF TRANSPORTATION?
- THE VACANT PARCELS OF LAND IN THE CITY WHICH AREN'T YET DEVELOPED?
- GENERATING ENOUGH REVENUE TO PROVIDE THE SERVICES YOU NEED?
- ANNEXATION AND DEVELOPMENT OF ADJACENT COUNTY LAND?

WHAT DO YOU THINK ?

Your City Council wants you to take part in a review of the General Plan which guides the future of Saratoga. Our current General Plan was adopted in 1974. Does it still meet the needs of our community? Are you satisfied with the way Saratoga has grown? Do we need to set some new goals?

The Council has appointed a Citizens Advisory Committee whose main task is to find out what you, the residents of Saratoga, think of your City. The Committee is holding neighborhood meetings throughout Saratoga and wants you to come. A schedule and map appear on the reverse side.

If you cannot attend the meeting in your area, you are welcome at any other. If you want to participate, but can't attend a meeting, you may obtain a questionnaire at City Hall, the Community and Village Libraries, your fire station, or call 867-3438.

WHAT'S YOUR OPINION?

-A QUESTIONNAIRE FROM THE SARATOGA GENERAL PLAN CITIZENS ADVISORY COMMITTEE-

THE ISSUES RAISED IN THESE QUESTIONS PROVIDE THE FRAMEWORK FOR THIS EVENING'S DISCUSSION. IF YOU PREFER, YOU MAY WRITE YOUR COMMENTS ON THIS PAPER AND TURN IT IN AT THE MEETING'S CLOSE OR MAIL IT TO YOUR AREA REPRESENTATIVE OR THE PLANNING DEPARTMENT, CITY OF SARATOGA, 13777 FRUITVALE AVENUE, SARATOGA, CA 95070

1. What positions should Saratoga take on housing alternatives? (multi-unit, condominiums, subsidized, senior citizen, higher-density, etc.)

2. Can you suggest future uses for schools which may close due to declining enrollment?

3. What should be done with the West Valley Corridor? (auto traffic, public transit, trails and pathways, linear park, housing, etc.)

4. Are transportation and circulation needs being met? (autos, public transit, emergency vehicles, trails and pathways, etc.)

5. What would make the Village area a better place to operate a business, to work, to shop, and to live?

6. Are there revenue-producing land uses which you feel the city should consider? ("think-tanks", co-op wineries, artisan center, hotel/bed and breakfast facilities, wholesale nurseries, dinner theater, etc.)

7. The city is evaluating our remaining parcels of vacant land in terms of future land use. Suggest what uses are proper for such sites in your area. (Are you willing to support additional publicly owned open space and recreational uses?)

8. Should the city encourage annexation and development of adjacent county lands?

9. Does the character of present development in Saratoga give adequate attention to conservation of open space? of historic features? of "heritage lanes"? of other physical characteristics you think are important to Saratoga?

10. Other comments or concerns.

11. Would you be interested in being an active participant in this ongoing General Plan review process?

DATE _____

THE PLANNING AREA IN WHICH YOU RESIDE _____

YOUR NAME AND ADDRESS _____

_____

_____

THANK YOU

Question #1. <u>What positions should Saratoga take on housing alternatives? (multi-unit, condominiums, subsidized, senior citizen, higher-density, etc.)</u>

The committee reviewed the discussion which occurred at the area meetings, and the comments expressed on the questionaires, relative to question #1. An effort was made to organize the responses by type of housing alternative and to identify consensus. Minority statements, unless expressed in several areas, are generally not reported.

1. <u>Single Family Detached, on Conventional Lots</u>:

   There is clear support citywide for continuation of the present type of housing. Undeveloped sites zoned for single family residential should remain so designated. Residents of Areas B and G recommended, respectively, that the lands of the Horticultural Foundation and the I.O.O.F. shall be developed as single family detached, if the present open space were to be developed.

2. <u>Single Family Detached, Clustered to Preserve Open Space</u>:

   The majority of participants did not respond to this housing type. A minority thought that the clustered housing concept used to preserve open space should be investigated; it should not be coupled with increased density, however.

3. <u>Single Family Attached</u>:

   Defined as duplexes or patio homes, where discussed there was general disaproval.

4. <u>Condominiums in General</u>:

   A mixed vote seemed to develop on this issue. However, some support did exist in many areas for luxury style condominiums. In fact, if the description "luxury" were applied, some areas said a majority would approve. Three planning areas (A, F_k(L) and G) rejected the concept of condominium development and are opposed to the construction of condominiums in their areas. The concept was acceptable in area F_Q only if the units are for senior citizens. Condominiums were favored in the Village area (J).

5. <u>Rental Apartments in General</u>:

   Support is limited to the Village area. A minority in areas D and E favored more rentals for senior citizens.

6. Senior Citizen Housing:

There is qualified support for market-rate housing for seniors. Areas favorable to senior citizen housing are Area J (the Village) and Area F (Quito). Area F_k (L) opposes construction of senior citizen housing in that area. There is support in Areas F_o and J for a partial or full-care facility for seniors (common dining, on-site nursing, etc.)

7. Government-Subsidized Units:

All areas oppose subsidized housing, with the following exceptions:

A. Area F_o will support subsidized units for senior citizens only;

B. Areas C and E will support utilization of school sites for senior citizen housing.

In most areas, the Saratoga Housing Assistance and Rehabilitation Program (SHARP) was not discussed.

Question #2. Can you suggest future uses for schools which may close due to declining enrollment?

The majority of responses to this question supported preservation of the school buildings and properties by the school districts.

The Community recognizes that the school districts must use their resources to the optimum and that income must be produced by the surplus school sites. The City must work with each school district in developing plans beneficial to all parties concerned. (There was a strong expression from residents of Area I to keep Saratoga School on Oak Street open as a public elementary school.)

Leasing of the surplus schools was the most obvious alternative discussed. Suggestions for potential lessees were those that would allow maintenance of the community, recreational, and open space features of the property, e.g., private schools, community center, artisan center, and other comparable uses. Leasing to private businesses for office space, storage, research and

development functions, etc. was also favored, if performance standards were applied to prevent adverse traffic, noise, or other environmental impacts. Area D expressed concern that the uses of surplus schools be carefully monitored.

The minority view was expressed in areas A, B, C and E that conversion of the school buildings to rental housing for seniors would be appropriate. It was pointed out that leasing part of the same site to some kind of child-care facility could provide benefits to both the young and elderly age groups. A majority in area E favored keeping the land in public ownership, but felt new residential development could be a viable interim use, depending on the terms of the lease.

Some responses acknowledged that the financial condition of the school districts would necessitate the sale of some surplus sites. There were expressions of willingness to tax themselves for open space acquisition in planning areas C and F_Q.

If the public ownership were not possible, support for sale of the property for residential development consistent with the surrounding neighborhood was expressed. A minority in area D favored condominiums for seniors.

If a school site which is the primary open space resource for the surrounding neighborhood is to be sold, consideration should be given to requiring as a condition of approval that the developer of the subsequent subdivision contribute a portion to the City for a park or public open space use.

Question #3. What should be done with the West Valley Corridor? (Auto traffic, public transit, trails and pathways, linear park, housing, etc.)

The Community voiced strong opinions on all sides of this issue. The General Plan Committee has compiled the input received, but may not be able to reconcile it to a single concensus. The data is summarized here.

Respondents in several planning areas (A, B, C, E, H, and J) supported preservation of the corridor for eventual auto use. Majority support for freeway use was expressed in areas A, B, C, E, and H. Residents of areas A, E, and H also supported the alternative of an expressway or parkway (preferably with the landscaped appearance of Foothill Expressway in Los Altos.)

A majority in areas H and J, and a minority in areas A and K, also approved of a multi-model use of the corridor, specifically the light rail and auto combination. Related to this concept,

areas A and J also spoke to the importance of preserving the full width of the corridor.

Light rail, in lieu of auto traffic, was favored by a majority in area K and a minority in areas A, C, D, and $F_K(L)$.

Areas expressing majority opposition to auto traffic use in the corridor were G, D, $F_K(L)$, F_Q, and K. Minorities in Areas A, B, and C were opposed to either the freeway use or to auto use in general.

Favoring the following alternative uses in lieu of auto use were:

Use	Majority	Minority
linear park	D, $F_K(L)$	A, C, F_Q, H, K
trails, pathways, bike paths		A, C, F_Q,(L), H, K
housing	$F_K(L)$	A, D, H, G

Area I did not take a position on the West Valley Corridor.

There was no reporting as to means of financing these uses.

Question #4. Are transportation and circulation needs being met? (Autos, public transit, emergency vehicles, trails and pathways, etc.)

Almost all planning areas reported a strong request for improved public transit, speaking to more frequent service and changes in routing. Minibus service to connect neighborhoods with the Village was advocated.

Areas C, I, and J had majorities express a need for either additional, improved, or safer bicycle lanes. A minority in area $F_K(L)$ concurred.

Implementation of the Trails and Pathways Plan was called for by majorities in areas A, C, E, F_Q, and J. Some support was also expressed in areas B and $F_K(L)$.

A safe crossing on Saratoga-Sunnyvale Road to serve Argonaut Shopping Center and Argonaut School was a major concern of areas B and E. A majority favored installation of a traffic light at Blauer, a minority at Brandywine. Both areas pointed out that completion of the West Valley Corridor might improve the traffic conditions on Saratoga-Sunnyvale Road.

Planning Area A opposed additional east-west connecting roads in that area, contending these would adversely affect areas B and C as well. Pierce Road was recommended for designation as a heritage lane in order to retain its present character.

Complaints concerning the inadequacy of traffic circulation were noted about the following streets: Big Basin Way and the entire Village area, Saratoga-Los Gatos Road, Saratoga-Sunnyvale Road, Saratoga Avenue, and the Quito area in general.

Suggestions for traffic and circulation-related improvements in the Village have been summarized in the response to Question #5.

The balance of responses to this question were planning area specific. These constituted suggestions for improved street maintenance and landscaping, the need for sidewalks and footpaths, new turn lanes, rerouting of trucks and through traffic, additional traffic lights, and the removal of collector designation and use from certain streets. It is recommended that these be evaluated during review of the circulation goals of the General Plan and the development of the action program for each planning area.

Question #5. What would make the Village a better place to operate a business, to work, to shop, and to live?

More parking was the overriding response of all who discussed this question. To improve the existing parking in the Village, citizens strongly advocated better lighting, more clearly-marked parking, and better access. Parking District #3 should be established.

The general improvement of traffic circulation in the Village was widely called for. Residents of Planning Areas B and J urged a stop light at Fourth and Big Basin Way. Other minor suggestions included better traffic policing, provision of left turn lanes, a limit on through traffic, additional crosswalks, and a proper controlled turn-around at the west end of Big Basin Way.

A bus stop on Big Basin Way was recommended by Areas J and H. Mini-bus service to the Village from Saratoga neighborhoods was suggested by residents in Areas A, E, H, and J.

With respect to the appearance of the Village, comments focused on preserving and promoting the "small town" atmosphere. That atmosphere could be enhanced by strict architectural standards, improved landscaping and maintenance, historic preservation measures, and amenities such as benches, kiosks, and creek vista points.

The economic viability of the Village would be strengthened if the City did not permit more competing shopping areas to be built elsewhere in Saratoga (a majority view of Planning Areas E, F_Q and J). Area H favored provision of a full range of services in the Village; Area E called for more variety and diversity in land uses in the Village. A majority in Area E felt a department store would be desirable; minority suggestions for several other types of commercial uses were offered and noted.

Saratoga School on Oak Street should be preserved, in an alternate use if not as a public school.

Residential opportunities in the Village are important. A majority in Area E and minorities in Areas A and D favored more condominiums; Area J concurred, suggesting allowing more intensity of development. Living units on second floors above shops should be allowed (majority - Area J; minority - Areas A and H).

Note: The more detailed reporting of comments compiled by the committee during its work sessions will be reflected in the development of the new action program proposals for Planning Area J - the Village.

Question #6. Are there revenue-producing land uses which you feel the City should consider?

The majority of citizens responding seemed to accept the premise that the City could benefit from new revenue-producing land uses, but only if each proposed use was carefully evaluated. New uses should be compatible with the area's existing natural and built environment, should be designed with care, and have limited adverse impact (e.g., noise, traffic, etc.).

Commercial uses which respondents in several areas felt warranted consideration included: a "think tank," a cooperative winery, an artisan center, a hotel, bed and breakfast houses, wholesale nurseries, and a dinner theater. Limited interest was expressed in other uses: light industry, professional offices, a department store, a cultural center, a commercial orchard.

The appropriateness of these suggested uses for specific sites and planning areas will be determined as the General Plan Committee develops its recommendations for vacant, under-used, and surplus properties throughout the City.

It should be noted that there were a minority of citizens who expressed the belief that the City needed no new revenue-producing land uses.

Question #7. The City is evaluating our remaining parcels of vacant land in terms of future land use. Suggest what uses are proper for such sites in your area. (Are you willing to support additional publicly owned open space and recreational uses?)

At each of the planning area meetings, a working map was displayed which indicated lands in Saratoga that are undeveloped or that have the potential for redevelopment to a different or more intensive land use. The information accompanying the map explained present ownership, size of parcel, current general plan designation, and current zoning. The intent of the map was not to suggest that a change of land use was recommended or appropriate; rather, it has to point out that these are lands where a significant change is possible and general plan policies should either be reaffirmed or reconsidered.

Maps which focused on the lands within, or in proximity to, the respective planning areas were projected at the several meetings, to stimulate discussion about the lands most relevant to the area residents. Approval of the existing general plan designations or suggestions for alternative uses were recorded. Also noted were the plans of the property owners and the views of the City's Advisory Commissions where appropriate.

Recommendations concerning some parcels are incorporated into responses to other questions discussed herein (e.g., surplus schools, West Valley corridor). Others will be factored into the final recommendations produced by the General Plan Committee for each planning area's action program.

Question #8. Should the City encourage annexation and development of adjacent County lands?

The majority view throughout most of the City (with the exception of Planning Areas I and K) was opposition to further annexation and development of adjacent unincorporated lands. This view was premised on support for the existing constraints which County policies impose upon development of unincorporated hillside lands. Area E's expression of opposition to annexation included the suggestion that the City reduce the size of the designated urban service area within its sphere of influence, thus lessening its commitment to future City expansion. A minority view in Area F_K(L) suggested the deannexation of undeveloped lands which exceeded a 15% slope.

In some areas (A, B, C, D and G), qualifiers were added to the anti-annexation position, namely: annexation could be considered if it would improve the environment, if it would decrease the allowable density, if it would preserve open space, and if it would be at no cost to the City.

Majorities in Planning Areas I and K were not opposed to annexations, as long as the annexations did not impose additional expenses upon the City. Minorities in Areas B, C, and G concurred that if revenues exceeded costs, annexations should not be opposed.

Question #9. Does the character of present development in Saratoga give adequate attention to conservation of ...

This question addressed a number of community features within it, and the reporting of the responses is grouped accordingly. Few respondents gave unqualified approval that the City government was assuring that adequate attention was devoted to conserving all which was valued about Saratoga. Rather, several shortcomings were pointed out.

... open space?

There should be more careful monitoring of existing open space to assure the preservation of that which gives Saratoga its rural residential character. As an example, Areas A, B, and C were critical of the development and appearance along Saratoga-Sunnyvale Road, particularly at the Gateway and extending southward from Prospect Road to the railroad tracks. On a related issue, Area D was concerned about the impacts the development of the remaining open parcels along Saratoga Avenue would have upon its residential areas. Other areas spoke to the importance of maintaining or creating trails and pathways for enjoyment of open space (as well as improved pedestrian safety). The visibility

of large homes on the hillsides from the valley below was criticized.

... historic features?

When discussed, conservation of historic resources was generally supported in concept. Specific comments referred to the Village and the maintenance of its smalltown atmosphere and quaintness.

... "heritage lanes?"

The concept of preserving the rural character of Saratoga's older roads was generally endorsed. Although all Planning Areas did not single out the roads they would recommend for this designation, the following were suggested: Pierce, Sobey, Quito, Big Basin Way, Walnut, Alta Vista, Williams, and Victor Place.

... other physical characteristics you think are important to Saratoga?

Features singled out here (and the areas from which they were reported) were: preserve the oak trees (A); encourage rehabilitation of older homes (E); install a landscaped median and underground the utilities along Saratoga-Sunnyvale Road (C); landscape Fruitvale Avenue south of City Hall (G and H); consider the recommendation in the 1974 Village Plan to expand Blaney Plaza (J).

Question #10. Other Comments and concerns.

The following is a reporting of a number of other issues that were brought to the General Plan Committee's attention through the meetings and questionnaires. No consensus is derived. The issues are grouped by general topic, and the Planning Areas raising the issues are indicated in parentheses.

A. Development Policies

1. Keep Saratoga rural; don't try to emulate what is popular in other jurisdictions. (B)

2. Require better landscaping and more uniform setbacks along roadways. (F_Q)

3. If it is unlikely that a total street will be improved, take a deferred improvement agreement as a condition of approval rather than requiring the developer to install the street improvements with his project. (I)

4. Improve the appearance of Saratoga-Sunnyvale Road. (C)

B. Land Use Policies

1. Don't allow use permits to be approved which are counter to General Plan intent; permitted and conditional uses indicated in the zoning ordinance should be consistent with the General Plan. (F_K(L) and D)

2. Make sure the General Plan Map and the zoning map are consistent. (J.)

3. Follow the intent of the Village Plan of 1974. (J)

4. A floodplain zone is needed. (F_K(L)

5. The P G & E installation at Mendelsohn and Piedmont is an eyesore. (I)

6. Home occupations are not appropriate if they disturb the neighborhood. (E)

7. Control lighting on private property if it disturbs neighbors. (I)

8. Protect residents from the noise emanating from certain commercial activities. (Hubbard & Johnson - C; Quito Shopping Center powersweeping - F_Q and D)

C. Fiscal Policies

1. Development fees should equal the actual costs to the City. (A)

2. Give more thorough attention to City finances. (E)

3. Seek authorization to increase taxes in lieu of seeking revenue from more commercial development. (D)

4. Impose a city sales tax of ½%. (E)

5. Provide economic incentives to encourage improvement of rundown buildings. (J)

6. Weigh the fiscal impacts of all suggested City programs. (E)

D. Public Services and Facilities

1. Improve police protection. (F_K(L)

2. Establish City's own police force. (C)

3. Several school districts providing service within one city creates problems. (D)

4. The enrollment policies and service area for West Valley College should be evaluated in light of traffic and other impacts on the surrounding community. (G)

5. The regularity of the flea markets held at West Valley College is objectionable. (H)

6. Institute weekly curbside recycling. (K)

E. Traffic and Circulation

1. Retain loop road concept. (A)

2. Regulate vehicle parking along streets. (B and D)

3. Install traffic light at Prospect and Lyle. (D)

4. The parking design at Quito Market is difficult to use. (D and H)

5. Traffic hazards were noted at:

   a. Fruitvale Avenue south of West Valley College. (G)

   b. Saratoga Avenue near Herriman. (H)

   c. Quito Road at Paseo Lado. (K and F_Q)

   d. Both Cox and McCoy (lane striping needed). (F_Q)

   e. Quito and Westmont. (K)

   f. Quito and Devon. (F_Q)

6. Give a parking bonus for Village property owners who improve old buildings. (J)

7. Don't resurface Big Basin Way until Parking District #3 exists. (J)

8. Quito Road beautification is needed, including landscaping and bike path. (K)

F. City Administration

1. Establish more open communication between City and residents. (A)

2. Eliminate red tape at City Hall. (E)

3. Improve public noticing. (F_K(L)

4. Stronger enforcement by City of conditions imposed on construction work (i.e., hours for equipment operation). (F_Q)

CHAPTER 2

GOALS, POLICIES, AND IMPLEMENTATION MEASURES

GOALS, POLICIES, AND IMPLEMENTATION MEASURES

The following section is comprised of the goals and policies as established by the General Plan Citizens Advisory Committee and implementation measures to accomplish those goals and policies. Additionally, there is a one or two sentence description of the element from the State of California Code. The intent behind Chapter 2 is to give residents, Council and Commissioners the goals and policies in a brief and concise format. It will be necessary to review Chapter 3 for a lengthy discussion of each Element.

Besides the Element definition, and the goals, policies and implementation measures, there is a matrix which relates the major issues discussed during GPCAC meetings and the General Plan Element which addresses those issues.

Goals & Policies

The Goals and Policy Section of Chapter 2 should be interpreted as follows:

LAND USE ELEMENT (LU) Abbreviated to read (LU)

LU.1.0 Goal #1 under the Land Use Element

LU.1.1 Policy #1 which supports Goal #1 under the Land Use Element

LU.1.1 (Imp) Implementation Measure #1 which states how Policy #1 will be accomplished.

LAND USE ELEMENT (LU)

A land use element which designates the proposed general distribution and general location and extent of the uses of the land for housing, business, industry, open space, including agriculture, natural resources, recreation and enjoyment of scenic beauty, education, public buildings and grounds, solid and liquid waste disposal facilities, and other categories of public and private uses of land. The land use element shall include a statement of the standards of population density and building intensity recommended for the various districts and other territory covered by the plan. The land use element shall also identify areas covered by the plan which are subject to flooding and shall be reviewed annually with respect to such areas.

LU.1.0 Adhere to the adopted Saratoga Sphere of Influence Plan.

LU 1.1 Lands shall not be annexed to Saratoga unless they are contiguous to the existing City limits and it is determined by the City that public services can be provided without unrecoverable cost to the City and dilution of services to existing residents.

LU.1.1 (Imp) Annexation proposals shall be carefully studied to determine their economic and urban service impacts on the City.

LU 1.2 The City shall evaluate its designated unincorporated Urban Service Areas to determine if the areas are compatible with the County's Local Agency Formation Commission (LAFCO) Policies and are appropriate for annexation and urban development.

LU.1.2 (Imp) All four urban service areas to be studied to determine if further retraction of urban service area boundaries is required. These studies should be coordinated with LAFCO with public hearings before the Commission and Council.

LU.2.0 Adhere to the adopted Northwestern Hillside Specific Plan which is incorporated herein by this reference.

LU.3.0 Enhance the unique historic character of the Village as the center of community activity, commerce, and vitality.

LU.3.1 The City shall encourage the designation of heritage resources and assure their protection, maintenance, and enhancement by the provisions of the heritage preservation ordinance.

LU.3.1 (Imp) To be implemented by the Heritage Preservation Ordinance and the Heritage Preservation Commission.

LU.4.0 Encourage the economic viability of Saratoga's existing commercial areas and their accessibility by residents, keeping in mind the impact on the surrounding residential areas.

LU.4.1 Non-residential and industrial uses shall be buffered from other uses by methods such as setbacks, landscaping, berms and soundwalls.

LU.4.1 (Imp) Review the Design Review and Limited Industrial Ordinances to determine if increased setbacks and landscaping are required.

LU.4.2 Non-residential development shall be confined to sites presently designated on the General Plan for non-residential uses. Existing non-residential zoning shall not be expanded nor new non-residential zoning districts added.

LU.4.2 (Imp) (The policy is specific and does not require an implementation measure.)

LU.4.3 The City shall revise the zoning ordinance to allow bed and breakfast establishments as conditional uses in commercial or residential zoning districts where such uses have not previously been permitted and where such uses would be appropriate.

LU.4.3 (Imp) (The policy is specific and does not require an implementation measure.)

LU.5.0 The City shall use the design review process to assure that new construction and major additions thereto are compatible with the site and the adjacent surroundings.

LU.6.0 Relate new development and its land uses to presently planned street capacities so as to avoid excessive noise, traffic, and public safety hazards. If it is determined that existing streets need to be improved to accommodate a project, such improvements shall be in place or bonded for prior to issuance of building permits.

LU.6.1 Prior to initial approval, the decision making body shall consider the cumulative traffic impacts of single family residential projects of 4 or more lots

multi-family residential projects of eight or more units, and commercial projects designed for an occupancy load of more than 30 persons.

LU.6.1 (Imp) Applications for new subdivisions shall include reports that describe the cumulative traffic impacts from development of adjacent vacant properties.

LU.6.2 Proposed land uses and development proposals shall be evaluated against ordinance standards to assure that the related traffic, noise, light, appearance, and intensity of use have limited adverse impact on the area.

LU.6.2 (Imp) (The policy is specific and does not require an implementation measure.)

LU.6.3 The capacity of existing streets shall be recognized prior to tentative building site or subdivision approval of any project. New development shall be designed to minimize disruption to the area caused by an increase in through or heavy traffic.

LU 6.3 (Imp) See LU.6.1 (Imp)

LU.6.4 The number of through streets connecting arterial and/or collector streets should be minimized. Collector streets that both begin and end at intersections with the same arterial street shall be encouraged.

LU.6.4 (Imp) Implement through subdivision approval process. Amend Subdivision Ordinance accordingly.

LU.7.0 Promote the long-term economic soundness of the City government through careful analysis of land use decisions and fiscal practices.

LU.7.1 The City shall consider the economic impacts of all land use decisions on the City.

LU.7.1 (Imp) (The policy is specific and does not require an implementation measure.)

LU.7.2 The City shall adopt an ordinance which will authorize exactions in the form of improvements or fees required from developers to compensate the City for the direct and indirect economic effects that arise from proposed development and to insure implementation of this General Plan.

LU.7.2 (Imp) (The policy is specific and does not require an implementation measure.)

LU.8.0 Affirm that the City shall continue to be predominantly a community of single-family detached residences.

LU.8.1 Existing non-developed sites zoned single-family detached residential should remain so designated.

LU.8.1 (Imp) (The policy is specific and does not require an implementation measure.)

LU.8.2 Industrial land use in Saratoga shall be limited to existing sites.

LU.8.2 (Imp) (The policy is specific and does not require an implementation measure.)

CIRCULATION AND SCENIC HIGHWAY ELEMENT (CI)

A circulation element consisting of the general location and extent of existing and proposed major thoroughfares, transportation routes, terminals, and other local public utilities and facilities, all correlated with the land use element of the plan.

A scenic highway element for the development, establishment, and protection of scenic highways pursuant to the provisions of Article 2.5 (commencing with Section 260) of Chapter 2 of Division 1 of the Streets and Highways Code.

CI.1.0 Promote a balanced transportation system in Saratoga with attention to energy efficient transportation.

CI.1.1 The City shall encourage and participate in the County-wide implementation of a variety of modes of transport to serve Saratoga.

CI.1.1 (Imp) (The policy is specific and does not require an implementation measure.)

CI.1.2 The City shall work toward improved public transit, including more frequent service and access to the village.

CI.1.2 (Imp) Coordinate with County Transit on City efforts necessary to increase transit availability.

CI.1.3 The West Valley Corridor right-of-way shall be designated as a public use corridor.

CI.1.3 (Imp) (The policy is specific and does not require an implementation measure.)

CI.2.0 Facilitate the safe movement of vehicular traffic within and through the City, taking into consideration the environmental, historical, and residential integrity of the City.

CI.2.1 The City shall require public right-of-way to be offered and all private roads designated as collectors.

CI.2.1 (Imp) (The policy is specific and does not require an implementation measure.)

CI.2.2 For safety, every new or developing public or private cul-de-sac greater than 500 feet in length, and every new and developing residential area in the City with more than 15 residential lots on a cul-de-sac should have a primary and an emergency access.

CI.2.2 (Imp) Modify Subdivision Ordinance accordingly.

CI.2.3 Through collector streets shall be designed and aligned to minimize adverse impacts on the character of residential neighborhoods through which they pass.

CI.2.3 (Imp) Circulation design guidelines should be developed to be distributed to residential developers.

CI.2.4 The major traffic generators in the City should be provided with adequate access which is the least disruptive to local neighborhoods.

CI.2.4 (Imp) Circulation design guidelines should be developed to be distributed to commercial, industrial and institutional developers.

CI.2.5 Assessment Districts formed to improve existing streets shall be encouraged.

CI.2.5 (Imp) (The policy is specific and does not require an implementation measure.)

CI.2.6 If it is unlikely that a substandard street will be totally improved, the City should take a deferred development agreement as a condition of approval for infill projects rather than requiring improvements concurrent with development.

CI.2.6 (Imp) Modify Subdivision Ordinance accordingly.

CI.2.7 Prior to further development of major residential (4 or more single-family units; 8 or more multi-family units) or major commercial (more than 30 person occupancy) projects along the City's major arterials, the impacts of increased traffic shall be studied and a plan for minimizing these impacts shall be developed to the extent feasible.

CI.2.7 (Imp) (The policy is specific and does not require an implementation measure.)

CI.3.0 Protect the aesthetic, historic and remaining rural qualities of Saratoga through street design and landscaping.

CI.3.1 Minimum City street standards shall be adopted based on location, terrain, character of areas and the anticipated function of the roadway.

CI.3.1 (Imp) Develop general street standard criteria based on varying physical factors and make part of the Subdivision Ordinance.

CI.3.2 Conventional City street development standards, as described in the City's Subdivision Ordinance, should be allowed to vary in order to preserve environmentally sensitive roadside features where traffic safety will permit such variations.

CI.3.2 (Imp) Modify Subdivision Ordinance accordingly.

CI.3.3 The function of a street shall be recognized in advance of construction, and design criteria used to minimize disruption to the area caused by through or heavy traffic.

CI.3.3 (Imp) Implement through Subdivision Ordinance

CI.3.4 The City shall encourage the planting of trees and plan the development of landscaped medians along major arterials.

CI.3.4 (Imp) (The policy is specific and does not require an implementation measure.)

CI.4.0 Strive for aesthetically pleasing views from all roads in Saratoga and the Sphere of Influence.

CI.4.1 The City shall adopt an ordinance requiring the review of the design, appearance, and setbacks of all new fences, walls, and accessory structures that would be visible from, and on lots adjacent to, the City's arterial streets prior to the construction or issuance of building permits for those new fences, walls and accessory structures. The purpose of this ordinance is the enhancement of the scenic character of the views from these roads.

CI.4.1 (Imp) (The policy is specific and does not require an implementation measure.)

CI.4.2 The City shall rigorously enforce ordinances to prevent the use of non-conforming roadside signs on all roads and highways within the City. This shall include the use of all signs whether they be erected by private individuals or business enterprises.

CI.4.2 (Imp) Implement through Sign Ordinance. Reduce authorization time limits for signs in the scenic highway corridor.

CI.4.3 The City shall require increased setbacks of up to 100 feet for structures, walls or fences to be located on lots adjacent to officially designated scenic highways where it is determined by the City that such increased setbacks are necessary to preserve the scenic qualities of the highway.

CI.4.3 (Imp) Modify Zoning Ordinance accordingly.

CI.4.4 The setback and landscaping requirements established in the Zoning Ordinance for commercial and multi-family residential structures on corner lots adjacent to arterial streets may be increased to reduce the visual impact of such structures and to enhance the appearance of important intersections. The City shall determine the extent and configuration of the landscaped areas necessary to create attractive developments on such corner lots through the design review process.

CI.4.4 (Imp) Modify Zoning Ordinance accordingly.

CI.5.0 Use presently planned street capacities in determining land uses and acceptable development densities. If it is determined that existing streets need to be improved to accommodate a project, such improvements shall be in place or bonded for prior to issuance of building permits.

CI.5.1 The City shall require adequate access in keeping with the density of development.

CI.5.1 (Imp) Implement through Subdivision Ordinance.

CI.5.2 The City shall establish a minimum acceptable level of service for city streets during peak travel periods. Development which will have the potential to lower the level of service below the standard shall be changed so that the acceptable level of service shall be maintained.

CI.5.2 (Imp) Develop level of service criteria based on accepted traffic engineering methods. Service criteria shall be developed for arterials, collectors, and feeder streets and made part of the Circulation Element of the General Plan.

CI.6.0 Integrate safe bicycling, walking, and horseback riding into the total transportation system.

CI.6.1 Bicycle lanes shall be designated only where a road can accommodate them safely.

CI.6.1 (Imp) Modify trails and pathways portion of General Plan to include bicycle lanes and implement safety criteria.

CI.6.2 Parking shall be prohibited in designated bicycle lanes on thoroughfares and collector streets.

CI.6.2 (Imp) Adopt required ordinance.

CI.6.3 Where economically feasible, the bicycle route system should connect with the bicycle routes of adjacent communities, thereby increasing their accessibility to Saratogans.

CI.6.3 (Imp) Study existing bicycle route systems and determine the necessary modifications appropriate to the City's adopted trails and pathways.

CI.6.4 Rights-of-way of the West Valley Corridor, expressway, Santa Clara Valley Water District and utilities shall be used for trails wherever feasible.

CI.6.4 (Imp) (The policy is specific and does not require an implementation measure.)

CI.6.5 Encourage equestrian and pedestrian trails and pathways along roadways in areas where safety and aesthetics permit. Equestrian pathways should relate to the equestrian zones.

CI.6.5 (Imp) Review trails and pathways portion of General Plan to ensure consistency with this policy.

CI.6.6 Motorized vehicular traffic shall be prohibited on trails, pathways, parks and dedicated open space areas except for maintenance and emergency purposes.

CI.6.6 (Imp) Develop, adopt and enforce an ordinance prohibiting motorized vehicles on trails, pathways and parks.

CI.6.7 Assure implementation of the City's trails system by requiring trail dedication, construction, and a method of trail maintenance as part of the subdivision or site approval.

CI.6.7 (Imp) Implemented through Subdivision Ordinanc

CI.6.8 Trails, sidewalks or separated pathways should be pro vided in areas where needed to provide safe pedestria access to schools, along arterial streets and along collector streets.

CI.6.8 (Imp) Review trails and pathways plan to determine if adequate access is provided to schools and along streets.

CI.6.9 Encourage the trails policies noted in the Specific Plan for the Northwest Hillsides.

CI.6.9 (Imp) Include these policies as part of the Circulation Element.

CI.6.10 Bike paths should be placed on both sides of Saratoga Sunnyvale Road where traffic safety permits.

CI.6.10 (Imp) (The policy is specific and does not require an implementation measure.)

CI.6.11 The City will retain all existing and dedicated trails and pathways until it is determined that these trails and pathways are not necessary to accomplish the goals of the trails and pathway plan of the circulation element.

CI.6.11 (Imp) (The policy is specific and does not require an implementation measure.)

CI.6.12 Review the present equestrian zones and analyze their consistency with the trails and pathways plan of the circulation element.

CI.6.12 (Imp) (The policy is specific and does not require an implementation measure.

CI.7.0 Develop a circulation plan to show logical means of egress and ingress to undeveloped areas of the City and its Urban Service Area.

CI.8.0 Encourage the preservation of the width and appearance of those roads designated as heritage resources by the City.

CI.8.1 Encourage residents of streets and roads believed to have historic merit to nominate those rights of way for designation as heritage lanes.

CI.8.1 (Imp) Implement through Heritage Preservation Commission.

CI.8.2 The designation of heritage lane shall not preclude City action necessary to guarantee safe access for emergency vehicles while maintaining the integrity of the existing heritage lane.

CI.8.2 (Imp) Implement through Subdivision Ordinance

CI.9.0 Minmize the City's financial risks for maintenance of streets and roads.

CI.9.1 Prior to accepting any dedication of streets, the financial risks of maintenance costs shall be evaluated. Based on this evaluation, the City shall determine if the dedication of the street will be accepted.

CI.9.1 (Imp) (The policy is specific and does not require an implementation measure.)

CI.10.0 Traffic impacts that could create excessive noise, safety hazards, and air pollution shall be mitigated. The City shall use the standards established by the State of California and in effect on February 14, 1983, to determine what constitutes excessive noise, safety hazards, and air pollution until the City adopts its own standards or more restrictive standards are adopted by the State.

CONSERVATION ELEMENT (CO)

A conservation element for the conservation, development, and utilization of natural resources including water and its hydraulic force, forests, soils, rivers and other waters, harbors, fisheries, wildlife, minerals, and other natural resources.

CO.1.0 Control the density of development in hill areas, including the Sphere of Influence, to protect the unique quality of the City's mountainous backdrop and to protect the aesthetic qualities of the City.

CO.1.1 The importance of the views of the mountains and hills from Saratoga shall be reviewed when considering a development application within the City and its Sphere of Influence.

CO.1.1 (Imp) This policy is currently implemented through the Design Review Ordinance. The Ordinance implementing the Northwestern Hillside Specific Pla also addresses this issue.

CO.2.0 Conserve natural vegetative and significant topographic features which exist in Saratoga and its Sphere of Influence.

CO.2.1 Mineral extraction in the City and its Sphere of Influence shall be regulated and supervised to minimize physical and visual damage to the existing environment.

CO.2.1 (Imp) Implemented through limited Industria Ordinance and Grading Ordinance. Use permit and revegetation program shall be required for all such uses.

CO.2.2 The City shall encourage renewal of Williamson Act Contracts.

CO.2.2 (Imp) Conform to Robinson Bill - AB 2074

CO.2.3 Williamson Act contract cancellations shall be discouraged to the maximum extent feasible.

CO.2.3 (Imp) See CO 2.2 (Imp)

CO.2.4 Through implementation of the Tree Preservation Ordinance, the City shall control the removal or destruction of trees.

CO.2.4 (Imp) (The policy is specific and does not require an implementation measure)

CO.2.5 In the process of all new development, particular care shall be taken to preserve native oaks, measuring at least ten inches in diameter at twenty-four inches above the ground, and other significant trees by careful siting of all improvements.

CO.2.5 (Imp) Modify the Tree Preservation Ordinance to require tree removal permits for native oaks measuring 10 inches in diameter or greater.

CO.3.0 Preserve the quality of the natural environment and the character of the City through appropriate regulation of site development.

CO.3.1 The City shall strive to protect wildlife and wildlife habitats when considering proposals, for development or plans for active recreation.

CO.3.1 (Imp) (The policy is specific and does not require an implementation measure.)

CO.3.2 This policy has been reworded and relocated as CO.8.0; see page 2-20.

CO.3.3 The City shall minimize the impact that development may have on the quality of water within the City and its Sphere of Influence, including the application of strict standards to sanitation services to avoid ground water contamination.

CO.3.3(Imp) Adhere to the provisions of CEQA and coordinate with the various public agencies concerned with water quality (County Health, S.C.V.W.D., San Jose Water Works, etc.)

CO.3.4 The City shall minimize the impact that development may have on the quantity of water consumed by the development

CO.3.4 (Imp) City shall require when feasible that native vegetation be used in landscaping and requiring water use mitigation measures as conditions of development approval.

CO.3.5 Watersheds shall be protected by stringent erosion control during development and by minimizing grading to the fullest extent possible.

CO.3.5 (Imp) Implementation through Grading Ordinance and through building site approval conditions. Coordinat with Evergreen Resource Conservation District.

CO.3.6 Maximum impervious coverage limits used by the City shall be evaluated and, if necessary, revised to ensure that runoff due to new development will not create flooding or erosion impacts.

CO.3.6 (Imp) (The policy is specific and does not require an implementation measure.)

CO.4.0 Encourage energy conservation, maximum energy efficiency and the utilization of renewable energy resources, keeping aesthetics in mind, in order to reduce dependence on non-renewable resources for satisfying basic and non-basic energy needs.

CO.4.1 Consider developing an Energy Element within the General Plan to form the basis for energy conservation ordinances.

CO.4.1 (Imp) (The policy is specific and does not require implementation measure)

CO.4.2 Promote cooperation and coordination with federal, state, regional, and local governmental and private agencies in seeking to formulate and implement energy planning programs.

CO.4.2 (Imp) Continue support of existing Cal SECDA Agreement sharing solar and conservation information. Make this part of Energy Element.

CO.4.3 Facilitate dissemination of information on energy-conservation techniques and alternative energy sources.

CO.4.3 (Imp) Coordinate with PG&E and collect energy conservation pamphlets for public distribution. Develop staff experitse in conservation techniques.

CO.4.4 The City will continue to support voluntary recycling efforts.

CO.4.4 (Imp) Continue to allow the existing recycling center to operate on city property.

CO.5.0 Protect historical and archaeological values and significant geographic landmarks from destruction by development whenever possible.

CO.5.1 The natural beauty of the ridgelines shall be protected as prescribed in the Northwestern Hillside Specific Plan. Only minimum cut and fill should be permitted.

CO.5.1 (Imp) To be implemented by the NHR Ordinance.

CO.5.2 Encourage the preservation of the Saratoga School building on Oak Street for its historical value.

CO.5.2(Imp) (The policy is specific and does not require an implementation measure.)

CO.6.0 Protect the existing rural atmosphere of Saratoga by carefully considering the visual impact of new developments.

CO.7.0 Enhance built-up areas with landscaping and maintenance, especially in commercial areas and along streets.

CO.7.1 Encourage the formation of assessment districts to improve and maintain landscaping throughout the City.

CO.7.1 (Imp) (The policy is specific and does not require an implementation measure.)

CO.8.0(Goal) Preserve the quality of Saratoga's air resources and protect the citizens from the potentially harmful effects of air pollution.

CO.8.1(Policy) Impacts on air quality shall be evaluated in connection with development proposals and highway construction.

CO.8.1(Imp) Appropriate mitigation measures for air quality impacts shall be identified and implemented through the City's environmental review and permit-issuing procedures.

CO.8.2(Policy) Coordinate air quality planning efforts with other jurisdictions and with local, regional and state air quality agencies.

CO.8.2(Imp) The City should maintain and provide to BAAQMD and other agencies data regarding land use and potential development, public transit needs, sensitive receptors, and other issues related to air quality in Saratoga.

CO.8.3(Policy) Encourage the monitoring of air pollutants in Saratoga on a continuous basis.

CO.8.3(Imp) The City shall ask BAAQMD, Caltrans and private developers, if appropriate, to assist in the financing, installation and operation of an air quality monitoring station in Saratoga.

CO.8.4(Policy) Encourage the reduction of local sources of air pollution such as dust, smoke and vehicle emissions.

CO.8.4(Imp) The City shall enforce existing regulations relating to air quality and promote public education and awareness of air quality issues.

SAFETY

The summary of goals, policies and implementation programs for the Safety Element is located within the Element itself on pages 45-50. The Element is located in this binder, immediately after the Conservation Element between pages 3-42 and 3-51.

NOISE (N)

A noise element which shall recognize guidelines adopted by the Office of Noise Control pursuant to Section 46050.1 of the Health and Safety Code, and which quantifies the community noise environment in terms of noise exposure contours for both near and long-term levels of growth and traffic activity.

N.1.0 Protect Saratoga residents from excessive noise.

N.1.1 The City shall maintain and enforce the noise standards specified in the City's noise ordinance.

N.1.1 (Imp) Review existing Noise Ordinance and determine if it needs to be modified.

N.1.2 The City shall work with the appropriate agencies to develop and implement a plan to protect residential areas that are located adjacent to the West Valley Corridor right-of-way from excessive noise.

N.1.2 (Imp) (The policy is specific and does not require an implementation measure.)

HOUSING

The Housing Element is located in this binder, immediately after the Noise Element, between page 3-54 and Chapter 4, Area Plans. The summary of goals, policies and implementation programs is located within the Element, on pages 44-47.

Matrix

To assist the citizens and public bodies in relating policies to issues, a matrix has been developed which lists the issues and the policies relating to that topic. The issues were identified during the early stages of the General Plan Review process and formed the basis for the goals and policies of the 1982 General Plan.

Use of Matrix

One wishing to find the goals and policies related to an issue would identify the issue in the left margin and read across until the "X" is found and then move up the matrix to identify the Element. The information could be found in the abbreviated version in Chapter 2 and in the detailed elements in Chapter 4.

When considering the issue of the West Valley Corridor, one would look in the Land Use and Circulation Element for information.

ELEMENT → / ISSUE	Land Use	Conservation	Circulation Scenic Highway	Open Space	Seismic Safety/Safety		Housing	Noise	Specific Plan
WEST VALLEY CORRIDOR	X		X						

ISSUES - Discussed by GPCAC	GENERAL PLAN ELEMENTS								
	Land Use	Conservation	Circulation/ Scenic Highway	Open Space	Seismic Safety/Safety		Housing	Noise	Specific Plan
Housing Alternatives - Density	X						X		
Future Use of School Sites	X			X					
West Valley Corridor	X		X						
Circulation - Vehicular,Public	X		X						X
Transit, Trails and Pathways	X		X						X
Village/Commercial Lands	X	X	X						
Revenue Producing Lands	X		X						
Vacant Parcels	X	X		X			X		X
Future Expansion of City Limit	X								
Protection of: Open Space; Parks; Heritage Resources	X			X					X
Development Standards	X		X		X		X	X	
Energy	X	X							X
Aesthetics	X		X						X

ISSUE STATEMENTS AND POLICIES

This section relates General Plan policies to the issue statements described in the matrix and the questionnaire. Each question raised in the initial citizen participation phase is listed and then followed by the coded policies that relate to that issue. Used in conjunction with the Goals and Policies Section, the reader can determine how the citizens of Saratoga plan to deal with the issues raised.

Issue Statement #1 - What positions should Saratoga take on housing alternatives? (multi-unit, condominiums, subsidized, senior citizen, higher-density, etc.)

Addressed in Housing Element

Issue Statement #2 - Can you suggest future uses for schools which may close due to declining enrollment?

OS.1.3, OS.3.1, OS.3.2, OS.3.3, OS.3.4

Issue Statement #3 - What should be done with the West Valley Corridor? (auto traffic, public transit, trails and pathways, linear park, housing, etc.)

CO.3.2, CI.1.2, CI.6.4

Issue Statement #4 - Are transportation and circulation needs being met? (autos, public transit, emergency vehicles, trails and pathways, etc.)

LU.6.2, LU.6.3, LU.6.4, CI.1.1, CI.1.2, CI.1.4, CI.2.2, CI.2.3, CI.2.4, CI.2.5, CI.2.6, CI.3.3, CI.5.1, CI.5.2, CI.6.1, CI.6.2, CI.6.3, CI.6.4, CI.6.5, CI.6.6, CI.6.7, CI.6.8, CI.6.9, CI.6.10, CI.6.11, CI.9.4

Issue Statement #5 - What would make the Village area a better place to operate a business, to work, to shop, and to live?

OS.3.3, LU.5.1, LU.3.1, CO.7.1, CI.2.4, CI.5.1

Issue Statement #6 - Are there revenue-producing land uses which you feel the city should consider? ("think-tanks", co-op wineries, artisan center, hotel/bed and breakfast facilities, wholesale nurseries, dinner theater, etc.)

H.3.2, LU.4.1, LU.4.2, LU.4.3

Issue Statement #7 - The City is evaluating our remaining parcels of vacant land in terms of future land use. Suggest what uses are proper for such sites in your area. (Are you willing to support additional publicly owned open space and recreational uses?)

OS.1.1, OS.1.3, OS.3.1, OS.3.2, OS.3.3, OS.3.4, CO.2.2, CO.2.3, LU.6.1, LU.4.3

Issue Statement #8 - Should the City encourage annexation and development of adjacent county lands?

LU.1.1, LU.1.2

Issue Statement #9 - Does the character of present development in Saratoga give adequate attention to conservation of open space? of historic features? of "heritage lanes"? of other physical characteristics you think are important to Saratoga?

CO.1.1, CO.2.1, CO.2.4, CO.2.5, CO.3.1, CO.3.2, CO.3.3, CO.3.4, CO.3.5, CO.5.1, OS.1.1, OS.1.2, OS.1.3, OS.1.4, OS.2.1, OS.2.2, OS.4.1, LU.3.1

Issue Statement #10 - Other comments or concerns. (Development Policies, Energy & Aesthetics)

CO.1.2, CO.2.4, CO.2.5, CO.4.1, CO.4.2, CO.4.3, CO.4.4, OS.2.2, OS.2.3, LU.5.1, N.1.1.
CI.2.1, CI.2.6, CI.3.1, CI.3.2, CI.4.1, CI.4.2, CI.6.1, CI.6.2, CI.6.10

CHAPTER 3

GENERAL PLAN ELEMENTS

LAND USE ELEMENT

The land uses permitted in Saratoga are broken down into 5 broad categories: residential, commercial, industrial, open space, and community facilities. These categories are then broken into subcategories. State law requires "... a statement of the standards of population density and building intensity recommended for the various districts and other territory covered by the plan." The information is presented on the General Plan Map and is further described in the following sections.

Residential

Residential land use is broken down into 6 subcategories. The first 4 categories allow single-family dwellings, horticultural and agricultural use, and accessory uses compatible with single-family dwellings. The fifth category allows multi-family dwellings, single-family dwellings, horticultural and agricultural use, and accessory uses compatible with residential use. In residential areas, it is understood that other uses such as schools can be allowed. The sixth category would allow multi family densities in various zoning districts if the site is designated P-D residential and upon receipt of a use permit. Flexibility in terms of density and development would be allowed in the area if a project furthered the goals of the Housing Element. The six subcategories and the density and intensity of the uses permitted in these sub-categories are as follows:

A. Hillside Conservation Single Family - Maximum density of .5 DU/net acre or 1.55 people/acre. Maximum intensity of building and impervious surface coverage: 15,000 square feet or 25% of site area, whichever is less.

B. Very Low Density Single Family - Maximum density of 1.09 DU/net acre or 3.38 people/acre. Maximum intensity of building and impervious surface coverage: 35% of site area.

C. Low Density Single Family - Maximum density of 2.18 DU/net acre or 6.76 people/acre. Maximum intensity of building and impervious surface coverage: 45% of site area.

D. Medium Density Single Family -
   1. M-10 - maximum density of 4.35 DU/net acre or 13.5 people/acre.
   2. M-12,5 - maximum density of 3.48 DU/net acre or 10.8 people/acre.
   3. M-15 - maximum density of 2.90 DU/net acre or 9.0 people/acre.

In all cases above, the maximum intensity of building and impervious surface coverage is: 50%-60% of site area.

E. Multi-family - Maximum density of 14.5 DU/net acre or 27-45 people/acre. Maximum intensity of building coverage: 40% of site area.

F. P-D (Planned Development) Residential - 4.35 to 12.45 DU/net acre or 13.5 to 38.6 people/acre. Maximum intensity of building coverage: 25% - 35% of site area. All projects proposed on sites with this designation shall require use permit approval as provided for in Article 16 of the zoning ordinance.

It should be noted that any discussion of the number of people per acre is <u>not</u> meant to act as a limit to family size or maximum number of people that would be permitted to live on a site. The population densities given are meant only to act as a guide to the average number of people likely to occupy a given area.

Commercial

Commercial land use is broken down into four subcategories. The first two are traditional commercial categories that allow typical retail commercial and office uses. These facilities serve the community and/or their immediate neighborhood. They are not regional in orientation and tend to be located in relatively small complexes. The fourth subcategory allows a mix of residential and commercial uses upon receipt of a use permit. The four subcategories and the density and intensity of the uses permitted in these subcategories are as follows:

A. Retail Commercial - 4.35 to 8.7 commercial lots/acre, a maximum density of 14.5 DU/net acre (if use permit granted) or 27-45 people/acre. Maximum intensity of building coverage: 60% - 100% of site area.

B. Professional Administrative - 3.63 commercial lots/net acre 8.7 to 10.89 DU/net acre (if use permit granted) or 27-33.8 people/acre. Maximum intensity of building coverage: 50% of site area.

C. Gateway Landscaping - The purpose of this category is to create attractive entrances to the City in conjunction with commercial development. A minimum of 1,500 square feet of a site adjacent to a street or streets shall be devoted to landscaping. The City shall determine the exact configuration of this landscaped area through the design review process but, as a guideline, a 10 foot landscaping strip should extend along any street frontage.

D. P-D (Planned Development) Mixed - 4.35 commercial lots/net acre 8.7 to 10.89 DU/net acre or 27-33.8 people/acre. Maximum intensity of building coverage: 60% of site area. All projects proposed on sites with this designation shall require use permit approval as provided for in Article 16 of this zoning ordinance.

Open Space

Open space land use is broken down into seven subcategories. The first four are taken from the designations suggested in Government Code Section 65560(b) regarding the Open Space Element. The Hillside Open Space subcategory was taken from the Santa Clara County General Plan and is used only in the Sphere of Influence area. The last subcategory was not covered in the Government Code.

These subcategories are further described in the Open Space Element of this General Plan. The density and intensity of the uses permitted in these subcategories are as follows:

A. Natural Resource Preservation - This subcategory consists primarily of scenic easements granted upon approval of several subdivisions in the northwestern hillsides which protect significant topographic and vegetation features in that area. Some wildlife habitat is also preserved through these easements. No structures or paving are allowed in these areas.

B. Managed Resource Production - This subcategory consists primarily of the orchard lands and water reservoirs within the City. Single family dwellings associated with agricultural use are permitted at a maximum density of 0.4 DU/acre or 1.24 people/acre. Only structures directly related to the maintenance of these open space uses are permitted on the sites.

C. Outdoor recreation - This subcategory consists of City or County parks or lands designated for those uses. Only recreational facilities (i.e. playground equipment, recreational courts, etc.), structures necessary to support the parks or structures of particular historic value are permitted in these areas. These sites are considered to be of particular value for recreation purposes. Some parks preserve significant vegetation features such as Hakone Gardens and Villa Montalvo County Park.

D. Public Health and Safety Preservation - This subcategory consists primarily of flood plain areas, their streams and fault zone or landslide easements. No structures are allowed in these areas. These areas also preserve natural resources such as streams and geologic features created by faults and landslides.

E. Hillside Open Space - This subcategory was taken from the County General Plan and covers all areas within Saratoga's Sphere of Influence that are not designated as parks. This subcategory allows uses which "support and enhance a rural character", promote wise use of natural resources and avoid natural hazards. Uses include: agriculture, mineral extraction, parks and low density recreational facilities, land in its natural state, wildlife refuges and very low intensity residential development. Other support uses related to the uses already listed may also be permitted. Density of development allows from between 1 DU/20 acres to 1 DU/160 acres based on a slope density formula subject to stringent criteria. These criteria will become part of the Sphere of Influence portion of the General Plan.

F. Private Ownership - Only one site falls under this category. The Saratoga Country Club Golf Course. The use is described in the Basic Data section of the General Plan. It should be noted that there is a significant amount of private open space on large residential lots which are mapped as residential uses.

Community Facilities

Community Facility land use is broken down into three major subcategories which are further broken down into minor subcategories. These uses are described below.

A. School/Open Space Resource - Elementary schools, junior high schools, high schools, and the West Valley Community College are the uses that make up this subcategory. The open space and recreation areas of these sites are part of the City's open space inventory and help supplement City park use. Only school facilities or uses compatible with those facilities and adjacent uses are permitted. Intensity of building is governed by the zoning districts in which the schools are located. Allowable building coverage varies and is regulated by use permit.

B. Public Facilities - The Civic Center, the Community Library, and two fire stations are included in this subcategory. They are institutional uses under government control (other than school districts) that provide a public service. Building

intensity is governed by the Zoning Ordinance through the use permit process. Allowable building intensity varies.

C. Quasi-Public Facilities - This subcategory contains religious uses (churches, synagogues, religious schools, and the novitiate), convalescent homes, the cemetery, the electrical substation, and the Odd Fellows Home. These are institutional uses that provide a public service but are not controlled by publicly elected governing board. Allowable building intensity varies and is governed by the Zoning Ordinance. All uses or their expansions are evaluated through the use permit process and must comply with criteria indicating their compatibility with adjacent uses.

Industrial

There is only one category of industrial use - light industry. Wineries and related accessory uses are permitted under this designation. One industrial lot per 10 acres net is permitted with a maximum building coverage of 30%. Excavation of natural materials could be permitted under this designation if potential adverse impacts on the air and water quality, safety, and overall quality of adjacent environments are mitigated.

Overall Height Limit

No structure shall be over two stories in height except for structures located within the Village boundary as defined in the Village Area Plan. In the Village, structure height will be limited based on compatibility with existing structures and the natural environment.

THE CIRCULATION AND SCENIC HIGHWAY ELEMENT

Saratoga inherited its basic pattern of arterials from days before incorporation. In the past, Saratoga was an area traversed from a natural pass through the mountains to San Jose or southwest to Gilroy and beyond. The pattern of radiating arterials, Route 85, Route 9, Saratoga Avenue and Quito Road, from Big Basin Way provides less efficient access now that destinations of travelers are more dispersed. The radiating arterials soon become more than a mile apart. This distance creates a need to connect arterials to allow more efficient traffic movement between arterials and their destinations. Since traffic generally finds the route of least resistance (time/distance) some of the better located collectors have provided substitutes for missing arterials.

Generally, radical reclassification and upgrading of streets in Saratoga is not necessary to meet the existing and anticipated future vehicular needs. However, it is important that the City recognize that in some cases it must live with the historical deficiency on all modes of transportation but particularly on vehicles.

DATA AND FUTURE USES

Automobile and Roads

The low density residential character of Saratoga which is critical to the City's life style has committed the City (at least for the foreseeable future) to the automobile as the major mode of transportation. With this in mind, it is necessary to examine the internal movement in patterns and accesses to major traffic generators beyond the City limits, and to provide City residents with the safest and most efficient road system possible while continuing to protect the intrinsic character of Saratoga.

Freeways and Expressways

The major freeways now serving Saratoga include Junipero Serra (280), Santa Cruz (17) and Bayshore (101). From these freeways local residents can connect with a variety of major Statewide traffic carriers and reach virtually any point in the State.

For the past 23 years, the State Division of Highways has shown a freeway traversing the northeast corner of the City of Saratoga. This proposed West Valley Freeway would extend from Highway 280 in the northwest to 101 in the vicinity of Morgan Hill in the southeast. The State owns most of the parcels that make up the freeway

corridor but it is not known when the State will have sufficient funds to acquire the remaining parcels to complete the right-of-way. Some communities such as Los Gatos have allowed development on parcels designated as part of the corridor. It is possible Saratoga might also allow, or be compelled to allow by the courts, development of parcels within the proposed corridor. Such actions would make acquisition more difficult and thus delay any use of the corridor. The Environmental Impact Report for the project was completed in 1980. At that time, it was reaffirmed by Saratoga that the corridor right-of-way should be preserved.

The Lawrence Expressway extends from Highway 101 to the intersection of Saratoga Avenue and Quito Road providing a major access to the northeast portion of the City. The expressway terminates at this intersection and through traffic continues on Quito Road to Route 9.

Arterials

The City of Saratoga is served by nine arterial roads. Arterials are major traffic carriers which take cars through the City to and from the major traffic generators in the City. Three of these arterials are State highways; Saratoga-Sunnyvale Road (Route 85), Big Basin Way (Route 9) and Saratoga-Los Gatos Road (Route 9). These State highways radiate from a hub, the intersection of Route 85 and 9 and continue through the adjacent communities to the freeway system. Saratoga Avenue, a local arterial, bisects the area between the State highways. Quito Road and Fruitvale Avenue serve as arterials for north-south traffic wanting to avoid the Route 85-9 intersection. Pierce Road is currently designated as an arterial north of Arroyo de Arguello for residents living in the westerly section of the City and in the Sphere of Influence beyond, who want to avoid the intersection of Route 85 and 9. Mt. Eden Road is a designated arterial off Pierce Road which provides access to the Cupertino Sphere of Influence, particularly Stevens Creek Park. Cox Avenue provides an east-west arterial in the City. It connects the major radiating arterials in the City, Saratoga-Sunnyvale Road, Saratoga Avenue, Saratoga-Los Gatos/Quito Road.

Available 1979-81 traffic counts indicate that the most heavily traveled arterials are Saratoga Avenue north of Cox Avenue (ADT 27,537), Saratoga Avenue south of Cox (ADT 20,218), Quito Road which carries 24,000 ADT near Lawrence Expressway dissipating to 12,000 ADT near Allendale, Saratoga-Sunnyvale which carries 20,000 ADT at the junction with Highway 9 and 29,000 ADT at its junction near Prospect Road, and Saratoga-Los Gatos Road which carries 21,300 ADT at the junction with Highway 85 and 30,500 ADT at its junction with Quito Road.

State highway projections for 1990 indicate increases on the City's arterials, particularly at the intersection of Saratoga-Sunnyvale (Route 85) and Saratoga-Los Gatos Road from the intersection with Saratoga-Sunnyvale Road (Route 85) to Quito Road. Traffic volumes through the Village on Big Basin Way would not be appreciably affected by a Freeway's presence in the Corridor.

Traffic count projections are not available for local arterials in Saratoga. However, Cox Avenue, Fruitvale Avenue and Quito Road can be expected to carry increased traffic volumes with increases in County population.

One of the major traffic generators in Saratoga is West Valley Community College. The College, located at the intersection of Fruitvale and Allendale Roads, stimulates heavy volumes of traffic on Saratoga Avenue to Fruitvale, and Quito Road to Allendale, and across Allendale from Quito to Fruitvale. Intersection and street improvements at Saratoga Avenue and Fruitvale have relieved some of this pressure. Better use of the Lawrence Expressway will depend upon the improvement of Quito Road and upgrading of Allendale to an arterial. It is currently anticipated that the enrollment of the College will stabilize. As a result, these improvements are anticipated to be adequate for the foreseeable future.

Collector Streets

Collector streets serve an important function in residential Saratoga. They provide access from residential areas to local traffic generators such as schools, local shopping centers or community centers, as well as safe connections to the City's arterial system.

Citizen complaints, accident reports, and traffic counts indicate that the major problem on existing City collector streets in most cases is not volume but speed control. In a few isolated cases where neighborhood collector streets aid in filling in for the inadequacies of the City's arterial system or provide the only access to a relatively large area, the collector may carry as many as 2,000 to 3,000 cars. In most cases, the average ADT is well below this. Disregard for speed limits by many City residents, however, creates safety problems on almost all the City's collector streets.

Future traffic volumes on the majority of the City's existing collector streets is dependent upon the number of trips by homeowners. There are, of course, some exceptions in the City where the collector streets are so constructed that they have the potential of serving as through routes for other City residents. For example, the wide spread between Saratoga-Sunnyvale Road and Saratoga Avenue has generated some pressure on Miller Avenue, Titus Avenue and Homes/Brookglen Drive for an intermediate through route.

Those collectors whose location is such that they are also filling in for inadequacies in the City's arterial system present a different problem. Streets which have this potential should be recognized before construction and appropriate actions taken to protect future home owners from the problems of higher traffic volumes. Those areas where collector streets currently are doing double service and supplementing the arterial system need specific study which goes beyond the scope of the General Plan.

Every residential neighborhood in Saratoga appears to be adequately served with collector street access for safety and resident convenience except for the area bounded by Saratoga Avenue-Fruitvale Avenue-Saratoga-Los Gatos Road. While there are three designated collectors in this area, two spurs of Douglass Lane and LaPaloma, none traverse the area. Residents of this neighborhood seem to prefer the protective nature of the existing circulation system to the convenience of a through collector. Both the fire and sheriff's departments feel that existing access to this area is adequate. Additional residential development in the area might alter the situation in the future, but currently, the street system appears to adequately satisfy the needs of the neighborhood's residents.

The primary function of a local street is to provide access for safety vehicles and residents to the property adjacent to the public right-of-way. Since service is their primary purpose, local streets usually do not carry through traffic. The major problem on local streets in Saratoga is speed control. In 1976, a speed zone study was completed by TJKM Planning and Transportation Consultants which recommended speed limits for specific streets. These limits have since been imposed by the City in an effort to alleviate the problem.

Road Design

The roadways, whether access or arterials, are the corner stone to Saratoga's country atmosphere. While it is essential that roads be designed to safely serve the specific function determined by their location, the area served and potential traffic use, this can be done without urbanizing the countryside. Much of the flat area of Saratoga has been developed. However, in the more hilly area of the City and steeper Urban Service Area, the formally curbed and guttered access streets seem less appropriate, particularly when crossing the face of a hill or serving a hillside development. A better alternative might be to have a variety of City street standards depending upon the character of the area and the development. This is not to recommend poorer quality streets or inferior drainage; but rather to provide a variety of acceptable standards which can be more compatible with the natural environment of the area. These policies are reflected in the Specific Plan for the Northwestern Hillsides.

Residential areas should be protected from arterials by visual barriers wherever possible. Shopping centers facing on to arterials should have controlled access by using service roads or other focusing techniques.

Since the system of arterial streets is fairly well established in Saratoga, and predominant land use is residential, the collector street is the most likely new major traffic carrier to be added. Some connections will be needed to complete the existing collector system; in other cases new collectors will be required. In order to avoid the conflicts with adjacent residential land uses which now exist on some residential collectors in Saratoga, developers should initially design residential collectors with their function in mind.

Hillside collectors may, in some cases, present a lesser traffic problem to adjacent homeowners, but present a real environmental and visual problem. In these cases split lanes are suggested to mitigate scarring from grading. Periodic parking bays might also be used to permit the smallest feasible cut. Hillside access or local streets could be designed to minimize scarring. Parking bays should be provided periodically and on-street parking prohibited. Walkways or pathways could be separated from the roadway to protect the pedestrian from the roadway and be more in keeping with the country atmosphere.

Mass Transit

For the past several years, Santa Clara County has been studying the problem of mass transit with the assumption that the only economically feasible mass transit system is one that is Countywide. A look at the interdependence among cities in the County, the low densities, and the large distances between the major traffic generators such as important shopping centers, government offices, airports, bus and train stations, colleges, centers of employment and community activities, further supports the need for a Countywide transit system.

Only one per cent of the workers in Saratoga do not have access to a car. Over half have access to two cars, and 16% have access to three cars. The existing residential spread of Saratoga and minimum of local commercial services, entertainment centers and employment centers, make many locations difficult to live in without a car. Saratoga alone cannot economically support a public transit system, but, when combined with the adjacent communities a Countywide transit system is workable and financially possible.

The County has served Saratoga with its bus system for over 7 years and currently has three bus lines routed through Saratoga. All bus lines terminate and transfer passengers at West Valley College which is a major traffic generator for Saratoga. Two of the lines stop near the entrance to the Village. The buses run on a half-hour arrival frequency from about 5:00 a.m. to 10:30 p on weekdays. These transit services make it possible for the elderly, infirm and young people of Saratoga to take advantage of the commercial, recreational, educational, and social services outside of Saratoga on their own.

Railroads

Saratoga is served by a spur line of the Southern Pacific Railroad. The spur extends from San Jose across Saratoga from Prospect Road in the north to Quito Road in the south, and terminates at the Kaiser Permanente Plant in Cupertino. One train a day runs between the San Jose switch yard and the Permanente plant with regular stops at Paul Masson in Saratoga.

Within the City of Saratoga the tracks cross two arterials, Saratoga-Sunnyvale Road and Saratoga Avenue; two collectors, Via Roncole and Cox Avenue; and one local street, Glenbrae. All track crossings in the City are at grade and only three are protected by automatic safety gate warning systems, Via Roncole, Glenbrae, and Saratoga-Sunnyvale Road. Although not in the City, the railroad crosses two major access roads to the City, Prospect and Quito roads. The County sets the priorities for installation of automatic safety gates on these roads.

TRAILS, PATHWAYS AND BICYCLE ROUTES

For Saratogans, numerous mountain trails and an historical trail have, for many years, been available for recreational use. In addition, equestrian trails are found in the specially designated Equestrian Zones of the City: the Sobey Road area and the vicinity of Pierce Road.

Reliance on the automobile for all but purely calisthenic locomotion has, until recently, eclipsed the advantages of the other ways of "getting around". In the last several years increasingly frustrating traffic jams, air pollution and the high costs of automobile operation and maintenance have contributed to the emergence of a new breed of commuters and shoppers who walk or ride a bicycle whenever they need to go. A consciousness of physical fitness and a desire for outdoor recreation has increased the popularity of walking and biking as well as horseback riding. Also, pathways are needed not just for recreation but for safe access from schools and employment centers to other parts of the City. Therefore, a coordinated system of trails, pathways and bike routes providing links between major traffic generators such as employment centers, colleges, shopping areas, and neighborhoods is needed. This system of routes should also provide access to quiet scenic areas and parks. It should assure persons using non-motorized transportation safety and mobility in pleasant surroundings. The placement of hazard signs for joggers and other trail users at dangerous intersections should be encouraged. The purpose of the trails, pathways and bicycle paths element is to promote civic participation in developing a system of appropriate routes which is integrated into the overall transportation system of the City.

On July 6, 1977, the Trails and Pathways portion of the Circulation Element was amended by the adoption of a Master Trails and Pathways Plan (see Figure 2). This plan followed the broad recommendations of the Trails and Pathways Task Force which were submitted to the City Council in August, 1976. Three arterials were proposed in this plan. The major arterial followed the P.G.&E. right-of-way from Prospect Road near the Fremont Union School District High School site to Quito Road at the junction with the S.P.R.R. tracks. This arterial connects the two other arterials which serve the Pierce Road and Sobey Road equestrian areas. These arterials then connect with proposed County trails in the Sphere of Influence area which connect with Countyparks and other County trails in the Santa Cruz Mountains.

In 1978 the County adopted a Trails and Pathways Master Plan in which members of Saratoga's City Council and Planning Commission were involved through the Planning Policy Committee which formulated the plan. This plan links urban population centers with the great scenic and open space resources available in the County. Since the City's Trails and Pathways Plan compliments that of the County, these resources have been and will be available to Saratoga's residents.

Mountain Trails

There are twelve mountain trails available for hiking and horseback riding in the Saratoga area. The majority of these trails are in the Sphere of Influence. Each of these trails is described here.

1. Mt. Eden Valley Trails - This trail lies along an existing paved road and is an important link with Stevens Creek Park. The rural atmosphere should be preserved with off-road trail easements. Any road construction should make accommodations for bicycles as well. The Pierce Road-Mt. Eden Road route has been indicated in county trail studies.

2. Monte Bello Ridge Trails - These jeep trails and fire breaks are a natural extension of Stevens Creek trails and offer a connection to Palo Alto's trails system along the ridge to Page Mill Road. There are spectacular views of the Santa Clara Valley and the skyline. Several loop hikes are possible.

3. San Andreas Rift Trail - This trail follows the San Andreas earthquake fault line along Stevens Creek, Saratoga Creek and Sanborn Creek. It offers many opportunities for observation and inspection of the classic detail of an earth rift, especially along the jeep trail which connects Stevens Creek and Saratoga Creek. Although this route can be traversed at present, off-road trails are needed along Stevens Creek, Saratoga Creek and Sanborn Road. Park areas lie at both ends of this route; Sanborn Park lies across the rift. This trail has been indicated in County trail studies.

4. Table Mountain Trail - This trail lies on jeep trails and fire breaks through chapparal and oak. There are many fine view points.

5. Loghry Trail - From Saratoga Creek up Booker Creek, this trail may have been the ancient route of the native Indian tribes to their Skyline encampment. Loghry Forest, which was a gift to the State, is the smallest state forest in California, and is scheduled to become a part of Castle Rock State Park. Loghry Forest is planted with many species of trees and shrubs, and has a lookout tower. The trail, which runs over private property, is little traveled and the track is poor at present. This could, however, become a major route from Saratoga to the Skyline and the trails beyond.

6. Judge Welch Trail - In the late 1800s when Congress Springs Resort was at its prime, this trail was a well used route. Judge Welch, who owned the property, welcomed people to use the trail for outings to Castle Rock. It traverses lovely forested mountain slopes and climbs to Mt. Bielawski lookout (3,231 ft.). From Castle Rock Park and the Skyline, a whole vista of public trails to Big Basin and the ocean are open to the hiker and rider. Parks lie at both ends of this trail.

7. Long Bridge Trail - Along fire breaks and jeep trails, this is at present a good trail used by the Boy Scouts riders. From the historical "long bridge" (by Fischer's Resort) it traverses the eastern chapparal covered slope of the San Andreas rift.

8. Congress Springs Canyon Trail - At present this is restricted Water Company property. This trail is an interesting route through a rugged canyon and would add nearby loop hike possibilities to the Saratoga Trails.

9. San Tomas Trail - At present a usable trail, this route could become a major connector to the Skyline. This is a rugged, up and down trail which climbs from the valley to the Skyline traversing many observable ages of geological formations. It passes through a great diversity of flora; chapparal, madrone, oak, tan oak and fir.

10. El Sereno Trail - Along existing road and jeep trails, this trail has many spectacular views of the valley and in the opposite direction the San Andreas rift and Skyline. There are connections to the Los Gatos trail system and Lexington Reservoir. Crossing dry chapparal country with some lovely oak glades, this route makes excellent winter hiking.

11. Toll Gate History Trail - This route lies along the Congress Springs Road, but is not at present an existing trail. The easements for a separate, off-road trail along Saratoga Creek would be desirable. This route was the path of the ancient Indian tribes from their Saratoga Creek encampment to the Skyline and the ocean. Several points of interest are:

    1. The first county lumber mill.
    2. Campbell Cooper Mine.
    3. Maclay's Turnpike Tollgate.
    4. Hakone Gardens.

The trail terminates at the historical "long bridge" crossing of Sanborn Creek (and San Andreas fault) where it meets the Rift Trail, Judge Welch Trail and Long Bridge Trail.

12. Bohlman Trail - This route is an interesting climb from downtown Saratoga (or Hakone) to the Stuart Camp and the other loop trail return routes. Adequate trail easements should be secured along the roadway.

City Pathways

The following is an inventory of existing pathways in Saratoga:

1. Both sides of Saratoga-Sunnyvale Road from Prospect Avenue to Reid Lane (with gaps).

2. East side of Saratoga-Sunnyvale Road from Reid Lane to Big Basin Way (with gaps).

3. East side of Saratoga-Los Gatos Road from Big Basin Way to Wildcat Creek (with gaps).

4. Both sides of Big Basin Way from Saratoga-Sunnyvale Road to Bohlman Road.

5. West side of 4th Street from Canyon View Road to Saratoga Creek.

6. Along Oak Street from 5th Street to Madronia Cemetery.

7. West side of Arroyo de Arguello from SPRR to Wardell Road.

8. East side of Arroyo de Arguello from Wardell Road to its end.

9. North side of SPRR from Prospect Road to Quito Road

10. Southeast side of Carnelian Glen Drive and along a drainage easement connecting Carnelian Glen Drive with Douglass Lane (with gaps).

11. South side of Prospect Avenue from SPRR to Quito Road.

12. North side of Cox Avenue from Saratoga-Sunnyvale Road to Glen Arbor Court.

13. South side of Cox Avenue from SPRR to Paseo Presada.

14. South side of Herriman Avenue and Herriman extension to West Valley College.

15. North side of Saratoga Avenue from Big Basin Way to Herriman Avenue.

16. South side of Saratoga Avenue from Herriman Avenue to Fruitvale Avenue.

17. North side of Saratoga Avenue from SPRR to Quito Road (with gaps).

18. Along west side of Fruitvale from Saratoga Avenue to Douglass.

19. Along east side of Fruitvale from Allendale to Valle Vista.

20. South side of Allendale from Fruitvale to Quito Road.

BICYCLE PATHS

A Citizen's Committee met to study providing a demonstration bicycle path system in Saratoga. The County has suggested that each community designate a demonstration bicycle route system so that all communities in the County could be joined and accessible by bicycle. The initial stage of the Saratoga demonstration bicycle route system is described here:

1. Generally: Implementation of a demonstration bicycle system on the major streets of Saratoga as soon as practicable. The expansion of the system onto collector streets was viewed with caution and the recommendation in this regard is quite limited. These concerns and other features that apply to the entire system are treated in a section apart from the discussion of each street.

2. Cox Avenue: Primarily a path system on each side of the street with limited use of lanes for transition where paths are not possible. Striped bicycle route, pavement marking should be installed from Saratoga to Paseo Presada.

3. Highway #85 (Cox to Village): Primarily a path system on each side of highway. Difficulty with the system is noted from Reid Lane south to Village.

4. Blaney Plaza: Transition from Highway #85 to Highway #9 presents difficulty. Appropriate signs stating "route ends" and "use caution" are urged.

5. Highway #9 (Village to Fruitvale): This system depends upon installation of path over rock wall from Oak to Aloha. Then there would be a two-way system on the south side from Aloha Avenue to Vickery Avenue. Thereafter, proceeding toward Los Gatos, the system would change to a bicycle lane system on each side of the highway.

6. Fruitvale Avenue: A path system on each side of street from Valle Vista to Allendale; thereafter bicycle lanes from Allendale to Saratoga Avenue.

7. Saratoga Avenue: A striped bicycle route system on each side of street from Cox to Village.

8. Herriman: A bicycle route on each side with parking allowed from Highway #85 to Beaumont. Appropriate signs to indicate route ends before bridge.

9. Miller: No demonstration system; only three-block area from Somerville to East Melinda Circle shall be marked with bicycle lanes to provide safety to hazardous crossing area for Hansen School children.

The City has attempted to implement its demonstration bicycle system but difficulties have arisen in funding the project so it may be delayed.

SCENIC HIGHWAYS

The Scenic Highways Element's legislative authority, stemming from SB1489, was passed into law on April 16, 1971. Saratoga adopted its Scenic Highways Element in 1974. The purpose of the element is to inventory scenic corridors and to develop plans to protect them. The Master Plan for Scenic Highways, adopted by the State Legislature, identifies highways which are eligible for official designation as State Scenic Highways. Eligible highways can only become officially designated by the State after the local jurisdiction has adopted and implemented a plan to protect and enhance the scenic corridor.

The ultimate objective of Saratoga's Scenic Roads Program should be aesthetically pleasing views on all roads in Saratoga and the Sphere of Influence. This is not an unattainable goal. Most roads in the Sphere are scenic and only need to be protected. Most City roads are pleasant, some are scenic; only a few need improvement to make them visually attractive.

Designated Scenic Highways in Saratoga and its Sphere of Influence

A scenic highway provides the motorist with a continuous, varied visual experience. The most important criteria in the selection of a scenic highway is the field of vision for touring vehicles. All types of landscape qualify whether they are urban or rural, natural or cultivated.

In considering scenic qualities, residential neighborhoods in Saratoga are well maintained with a variety of trees, ample setback, and pleasant architectural quality. On the other hand, major thoroughfares and commercial areas are an area of concern. Efforts should be directed toward improving the visual aesthetics of these streets to complement the scenic character so carefully cultivated in the residential areas.

In the Sphere of Influence, County corridors may be designated County Scenic Roads and protected by the Santa Clara County zoning ordinance #NS-1200, 643-3.3 which requires 100 foot setbacks for building and structures along the scenic route. The County Board of Supervisors, on advice from the State Department of Transportation, designates those roads which qualify (under the same requirements as State Scenic Highways) as officially designated County Scenic Highways.

State Scenic Highways, which may be located in either the City or Sphere of Influence, rely on local zoning and other measures for maintenance and protection. For this reason, the State Department of Public Works must be convinced that local government agencies have taken sufficient steps to protect the scenic corridor by regulating land use and the intensity of development; requiring detailed site planning; and control of outdoor advertising, earthmoving, landscaping, design and appearance of structures and equipment in the area. The State protects the highway by landscaping and by securing adjacent property easements to protect or enhance the motorists' view. Saratoga needs to adopt a Scenic Highways Preservation Ordinance to supplement existing design review regulations. This would ensure adequate protection of existing scenic highways.

To qualify as an Officially Designated State Scenic Highway, scenic beauty is not the only criterion. A highway must be brought up to the standards of a "Complete Highway", one which incorporates safety, utility, economy, and beauty -- only then will the Department of Public Works, on advice from the Scenic Highway Advisory Committee, consider it for Official Scenic Highway status. Once a highway had been so designated, the State will post highway signs and label maps and publications with the California Poppy Scenic Route emblem. This has already been done for Highway 9 (Saratoga-Los Gatos Road).

Saratoga already contains two designated State Scenic Highways and four designated County Scenic Highways. The State Scenic Highways include Route 9 from Los Gatos to Saratoga (ending at the intersection of 9 with 85). The portion of Highway 9 from Saratoga to Skyline Boulevard has been under a State corridor study for several years but has not yet been designated. A Scenic Highway Report for this section of highway was completed in 1976.

State Highway 35, or Skyline, has been also designated an Official State Scenic Highway from Page Mill Road south to the San Mateo/ Santa Cruz County boundary. Santa Cruz County has not yet submitted a Scenic Highways program showing it is capable of protecting the corridor; as a result, the portion of Skyline in Saratoga's Sphere of Influence has not yet been designated an Official State Scenic Highway.

The Santa Clara Zoning Ordinance protects several scenic highways in Saratoga and its Sphere of Influence by specifying 100 foot setbacks. These include Skyline Boulevard from Saratoga Gap to Loma Prieta; Congress Springs Road from Saratoga Gap to the City limits of Saratoga, Bohlman Road and a low extension, Montevian Road; and Sanborn Road.

POTENTIAL SCENIC CORRIDORS

Several areas in Saratoga and its Sphere of Influence are being considered or have potential to be protected by the scenic highways designation.

Eligible State Highways

Highways 9 and 35 are the only two State Highways being considered in the State Scenic Highways Master Plan in Saratoga and the Sphere of Influence. Part of Highway 9 is already a Designated Scenic Route; the rest is under corridor study by the State. Highway 35, bordering Santa Clara and Santa Cruz Counties is under the jurisdiction of both counties and the actual "scenic corridor" or view is in Santa Cruz County. Therefore, it will be necessary for Santa Cruz to prepare an acceptable Scenic Highways Program or Plan before the State will officially designate Highway 35; Santa Clara's plan is considered adequate.

State Highway 85 (Saratoga-Sunnyvale Road), although not on the State Master Plan, could conceivably qualify as an urban designated scenic highway. Landscaping and design on a massive scale are needed to upgrade this important entrance to Saratoga. If this is ever accomplished and State Scenic Highway Designation is desired, the legislature can request that this highway be included in the Master Plan.

Eligible County Scenic Highways

Corridors for consideration under the Santa Clara County Scenic Highways Protective Zoning Ordinance are innumerable. In addition to those already enumerated in the Ordinance, Mt. Eden Road in the Sphere of Influence should be considered. County Roads which pass through Saratoga should be upgraded to permit their consideration under the scenic highways zoning provision.

Eligible Local Streets

Fortunately, low density zoning and stringent subdivision ordinances protect residential area streets with minimum site frontage measurements and design review. Commercial streets and major thoroughfares need attention. Saratoga Avenue, Quito Road, and Prospect Avenue all need considerable landscaping and/or sign control as well as architectural reworking before they can qualify as urban scenic roads. These improvements would provide the visual unity the residential areas achieve but the commercial sections lack. On Saratoga/Sunnyvale Road, the northern portal to the City, landscaping and sign control are needed. Citizens have expressed concern about the view entering motorists encounter at Saratoga/Sunnyvale Road and Prospect Avenue.

Big Basin Way, in Saratoga, (also subject of a detailed special study) needs much work to make it qualify as scenic or even utilitarian. Perhaps this is the obstacle to the rest of Highway 9 becoming a Designated State Scenic Highway.

Local Measures to Protect Scenic Roadways

City of Saratoga

- Low density residential zoning
- Minimum site frontage requirements
- Subdivision requirements for street arrangement which is "harmonious with topography (and) shall save and preserve ornamental trees where practicable." (Sec. 3.3.-15)
- Subdivision may be required to landscape area between property wall or fence and a major highway. (Sec. 4.8)
- Subdivision requirement for landscaping dead end streets. (Sec. 4.9)
- Planning Commission design review of most single family dwellings, commercial structures, major modifications to commercial structures, and signs.
- Tree removal prohibition without permit from Community Development Director (Ord. No. 38.26 Sec. 1).
- Height limits in zoning ordinance.
- Grading Ordinance the purpose of which is to preserve natural topographic features and vegetation.
- Priorities for underground wiring:

1. New Development
2. Areas of wide public use
3. Commercial areas
4. Scenic areas

- Obstruction to view from vehicles are declared nuisances. (Streets and Sidewalks (Sec. 1305.)

- $50 reward for conviction for persons throwing trash on highways, (Ordinance, No. 4A Sec. 13-5)

- Williamson Act protection of agricultural lands.

- Special ordinances for hillside subdivision to prevent erosion.

- Scenic easments on hillside subdivisions

- The aesthetic/scenic qualities policies of the Northwestern Hillsides Specific Plan.

Santa Clara County

- Inclusion of road in scenic highway zoning.

- Williamson Act.

- Scenic Easements (State and County).

- Zoning which provides for clustering of service stations and facilities along scenic roads. This has only been used rarely, never in Saratoga's sphere.

- Minimum lot areas and site frontages in all zones with adjustments based on slope and density.

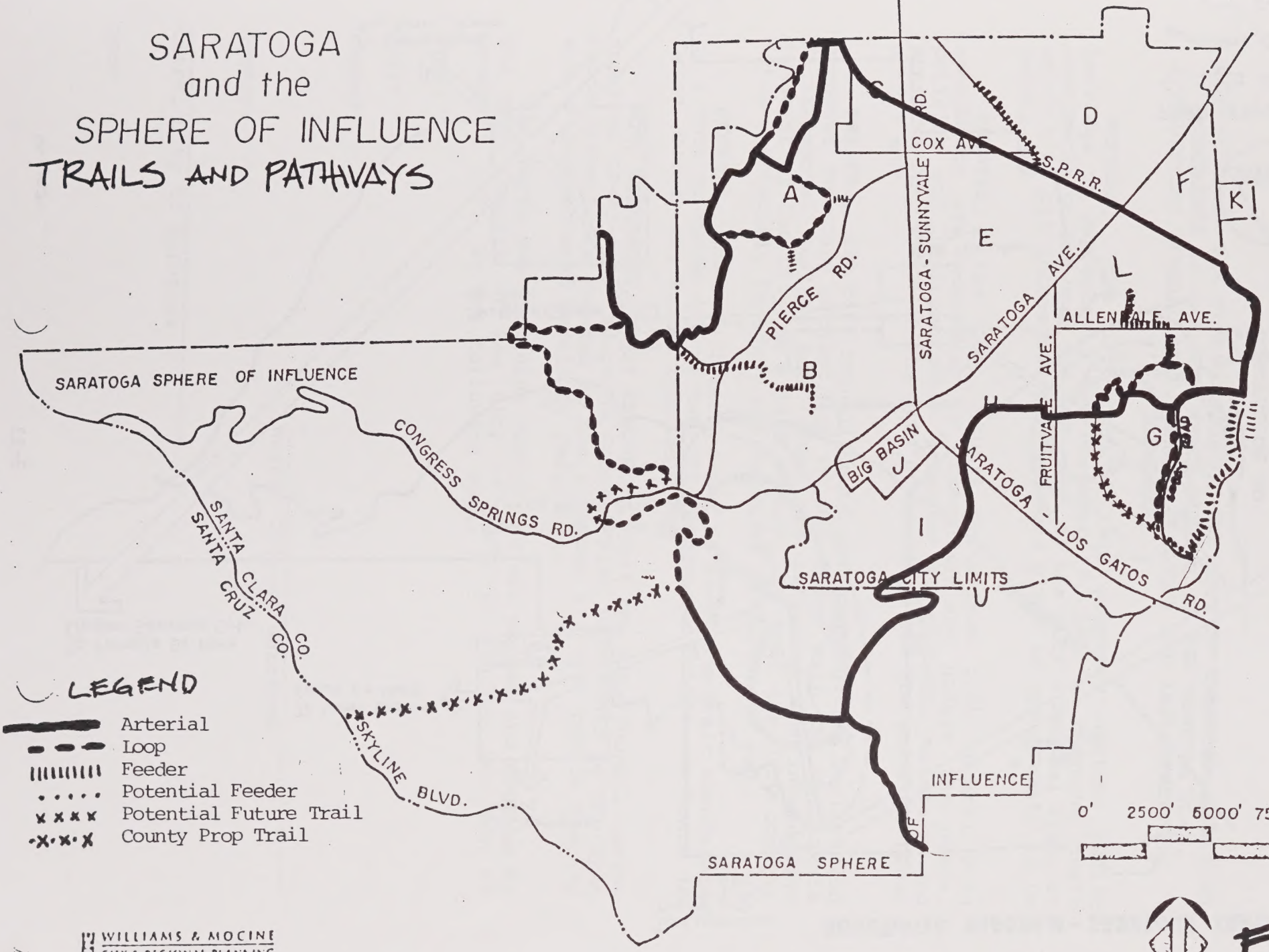
- Height limits on buildings.

- The Scenic Highway Element - 1981 County General Plan

Procedure for Designation Official Scenic Highways

The corridor studies necessary for official designation of a highway as a Scenic Highway must be initiated by the jurisdiction which controls the adjacent lands. The responsibility for the corridor study may be delegated to a department, employee, commission or committee. When such a study is initiated, the District Engineer of the Highway District should be notified. The Highway Division will then undertake two studies called the Corridor Survey which will be joined with the local jurisdiction's study to form the Scenic Highway Report. A specific plan and program must then be developed by the local jurisdiction assisted by the Division of Highway's staff. This plan and program will insure the protection and enhancement of the existing natural and man-made scenic resources that contribute to the Highway's being included in the State Master Plan for Scenic Highways. The plan and program are reviewed by the Highway District's staff and forwarded to the Interdepartmental Committee of Scenic Highways. After review by the Interdepartmental Committee, the reports are forwarded to the Scenic Highway Advisory Committee. The Advisory Committee reviews the information and recommends to the Director of the Department of Transportation whether the highway should be designated. County roads may be designated by the County Board of Supervisors after the State Director of Transportation has found all requirements have been met. The standards and requirements for the State Scenic Highways apply to County Scenic Highways; however, the Division of Highways will not undertake a County Scenic Highway Study.

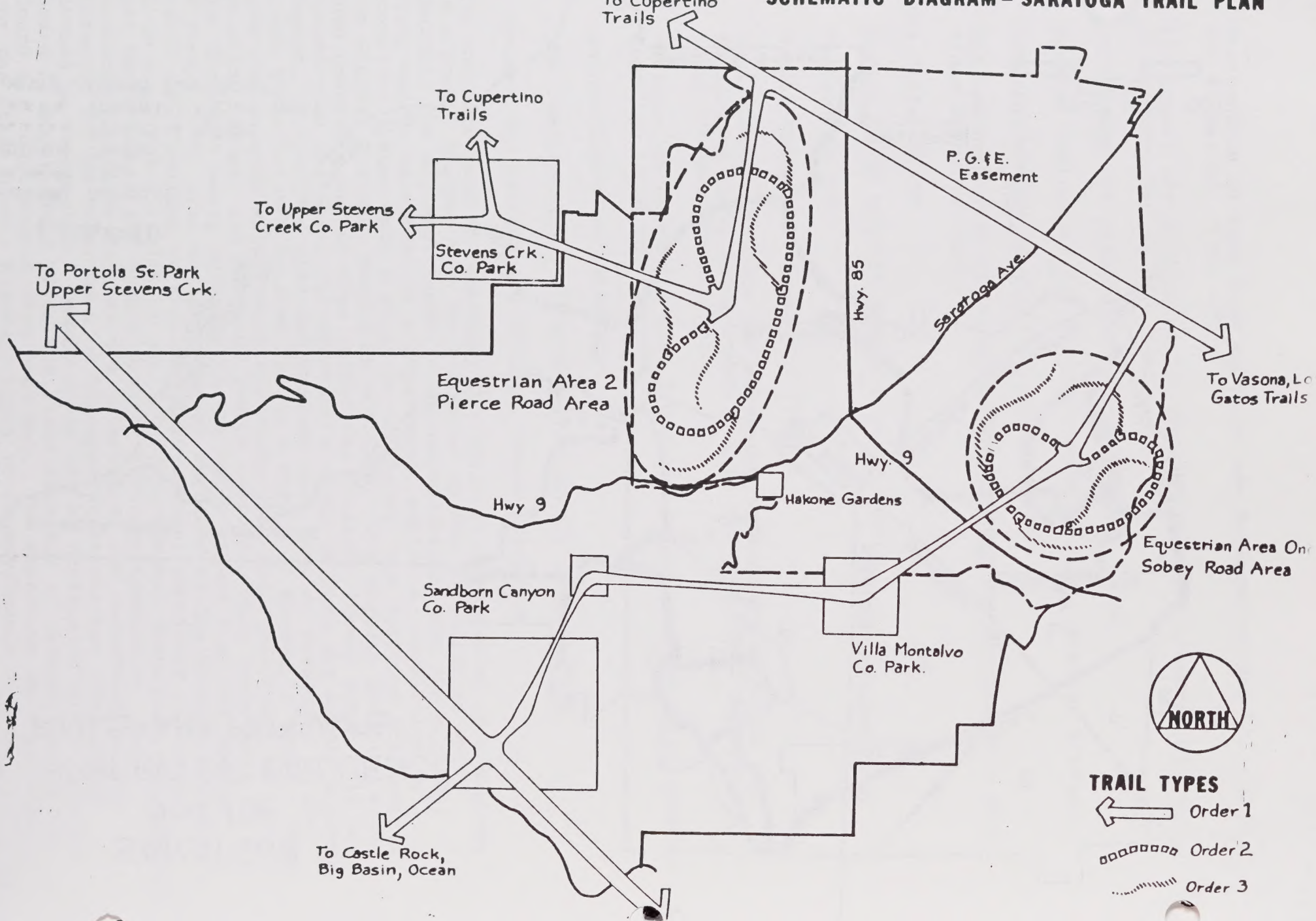
SARATOGA and the SPHERE OF INFLUENCE TRAILS AND PATHWAYS



WILLIAMS & MOCINE
CITY & REGIONAL PLANNING
861 BANSOME STREET, SAN FRANCISCO, CA 94111

FIG. 2

SCHEMATIC DIAGRAM – SARATOGA TRAIL PLAN



RESOLUTION NO. _____

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SARATOGA, ADOPTING AMENDMENTS TO THE OPEN SPACE ELEMENT OF THE GENERAL PLAN, MODIFYING GENERAL TEXT, GOALS, POLICIES AND IMPLEMENTATION PROGRAMS.

WHEREAS, the City Council held properly noticed public hearings on September 1 and November 17, 1993 to consider draft amendments to the Open Space Element of the City's General Plan, at which time all interested parties were given an opportunity to be heard; and

WHEREAS, the City Council determined that General Plan amendments are necessary to strengthen and update the goals, policies and implementation programs to protect, maintain and preserve Open Space in the City of Saratoga and its unincorporated areas; and

WHEREAS, the City Council found that the Negative Declaration prepared for this project was in accordance with the California Environmental Quality Act (CEQA) and reflected the independent judgment of the City as a lead agency, and that the City Council voted unanimously to adopt the Negative Declaration; and

WHEREAS, the City Council moved to adopt the draft amendments by a vote of three (3) to two (2) (Anderson, Kohler and Monia in favor, Burger and Tucker opposed); and

NOW, THEREFORE, BE IT RESOLVED, that the City Council hereby approves GP-93-001, adopting General Plan Amendments to the Open Space Element, as amended at the November 17, 1993 public hearing and as incorporated herein by reference.

The above and foregoing resolution was passed and adopted by the City Council of the City of Saratoga on the 1st day of December, 1993, by the following vote:

AYES:

NOES:

ABSENT:

_____
Mayor, City of Saratoga

ATTEST:

_____
Clerk, City of Saratoga

gpos

(Adopted 8/17/88)

CITY OF SARATOGA

AIR QUALITY SECTION

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PURPOSE AND GOAL OF AIR QUALITY SECTION

Clean air is a natural resource of vital importance, and although its protection is often considered to be a matter of regional concern, the City of Saratoga recognizes that there are policies and programs local governments can undertake to help preserve air quality. As such, this document has been prepared for inclusion in the City's General Plan as a Section of the Conservation Element. It is consistent with, and is to be used in conjunction with, the other elements of the City's General Plan in directing future development in Saratoga.

The purpose of the Air Quality Section is to preserve the quality of Saratoga's air resources and to protect citizens from the potentially harmful effects of air pollution. The Air Quality Section evaluates both existing and projected air quality, which is largely dependent upon pollutant emission levels and climatic factors. Major sources of air pollution are identified, as are the facilities used by those population groups considered to be particularly at risk from exposure to air contaminants. Also discussed are air quality issues and problems of special concern to Saratoga, and the goals, policies, and implementation measures developed to address them. These policies will direct the City's actions toward the preservation of air quality in the future.

ATMOSPHERIC AIR POLLUTION POTENTIAL

Air pollution potential can be defined as the tendency for high pollutant concentrations to develop at a given location. This potential is dependent upon the amount of pollutant emitted into the air and the local atmosphere's ability to transport and dilute the pollutant. Discussed in this section are the major topographical and meteorological factors that determine the local atmosphere's potential for pollution dispersion. These factors include the topography of the area, regional and local wind patterns (horizontal airflow), atmospheric stability (vertical airflow), and solar radiation.

Topography

The San Francisco Bay Area is a large shallow basin ringed by hills, which tapers into a series of sheltered valleys. The Santa Clara Valley is one of these protected valleys, and is surrounded by the Santa Cruz Mountains to the south and west and the Diablo Range to the east. The mountains act as natural barriers that prevent the free flow of air and dispersion of contaminants. There is a tendency, therefore, for pollutants to concentrate within the Santa Clara Valley air basin.

Regional and Local Wind Patterns

Horizontal air flow, or wind, is a major factor that influences pollutant dispersion. On days when wind speeds are low, as is typically the case in the Santa Clara Valley, the potential for

pollution concentration is high. For example, all other factors being equal, a 15 mph wind provides roughly three times as much pollutant dilution as a 5 mph wind.

In the Bay Area, the physical terrain directly influences regional surface wind patterns (Figure 1). Generally, surface winds flow around rather than over the higher mountains and hills, which appear as areas of darker shading on Figure 1. Due to the persistence of a semipermanent high pressure system off the California coast in the summer, the prevailing wind pattern at that time of year is northwesterly. Under these conditions, the wind generally flows through the Golden Gate and into the Santa Clara Valley from the north, carrying with it pollutants from the San Francisco and Oakland metropolitan areas. In the winter, periods of calm weather are characterized by light winds that flow out of the Central Valley and into the Bay Area through the Carquinez Strait. An example of this is the northeasterly airflow pattern, which often brings pollutants emitted from the north to Saratoga (also shown on Figure 1). Because of the prevailing regional wind pattern, air quality in the Santa Clara Valley is adversely affected not only by pollutants emitted locally, but also by those transported to the valley from the urban areas to the north.

Topography also influences wind patterns at a more localized level. During periods of atmospheric stagnation when regional winds are weak, a diurnal wind pattern develops in sheltered valleys; airflow commonly drains down-valley at night and reverses to flow up-valley by day. This daily recirculation compounds the pollution problem, since pollutants drift back and forth, constrained laterally by the valley walls. This wind pattern generally develops from the differential heating of the mountain slopes or hillsides vis-a-vis the valley floor and tends to be more pronounced adjacent to south and west-facing slopes, since these receive the most direct sunlight. As such, Saratoga may not be as susceptible to this phenomenon as the communities on the other side of the valley, but it still comes into play here particularly in the summer when the hours of sunlight are long.

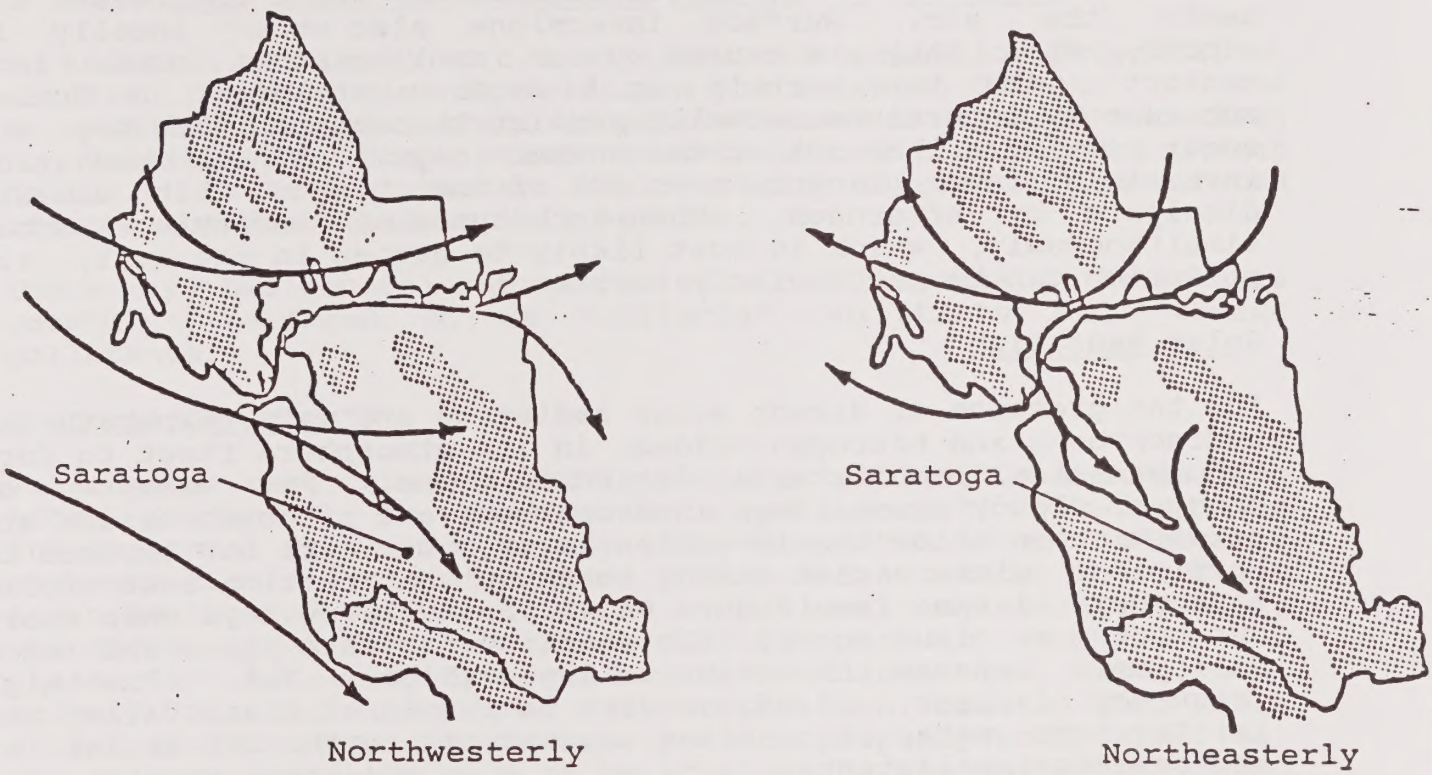
Atmospheric Stability

Atmospheric stability refers to the atmosphere's tendency to either suppress or promote vertical airflow or "mixing". When atmospheric conditions are stable, as is often the case along the California coast, vertical mixing of air is limited. The limit on vertical airflow is particularly severe when a layer of warmer air lies above a layer of cooler air. This situation is called an "inversion" because it is a reversal of the atmosphere's normal state where the temperature of the air decreases with altitude. A temperature inversion prevents pollutants from being diluted vertically, trapping them in the lower layer of air near the earth's surface (see Figure 2).

The strong inversions typical of California summers are caused by

REGIONAL WIND SURFACE PATTERNS

SAN FRANCISCO BAY AREA



Note: Shaded areas denote hills & mountains
Source: BAAQMD

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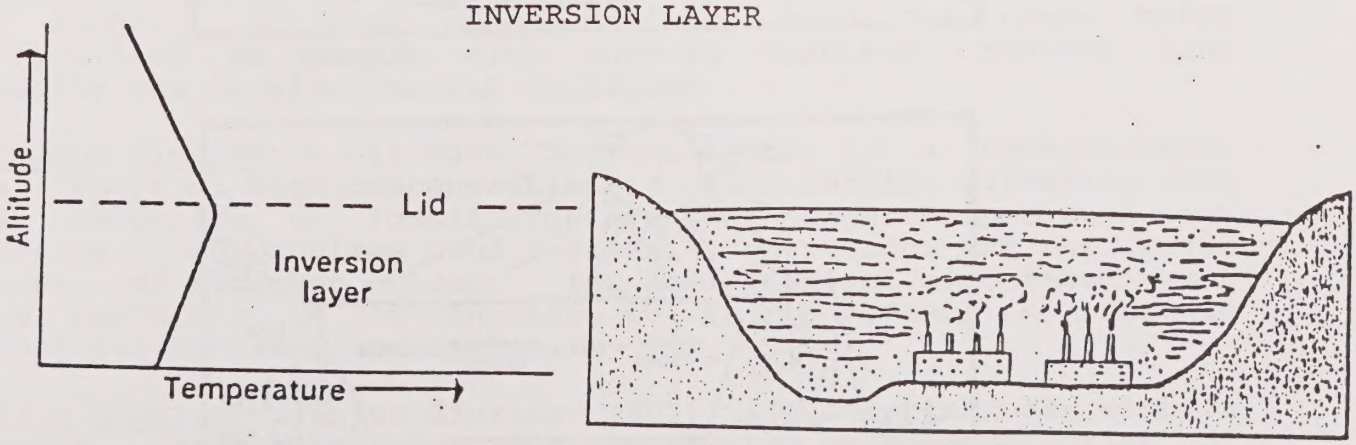
FIGURE 1

INVERSION LAYER



Source: Strahler, 1979

FIGURE 2

downward vertical motion, called subsidence, which compresses and heats the air. Surface inversions also occur locally in winter, when they are caused by air cooling as it comes into contact with the earth's cold surface at night. Summer subsidence inversions usually persist throughout the day and occur on more than 90% of the summer days. Winter radiation inversions take place on over 70% of the nights, but usually dissipate by afternoon. When both types of inversions occur simultaneously, which is most likely to happen in the fall, air pollution can be particularly severe.

Solar Radiation

In the presence of direct solar radiation and warm temperatures, hydrocarbons and nitrogen oxides in the atmosphere react to form "photochemical" pollutants, including ozone. For example, on foggy or cloudy summer days, hydrocarbons and nitrogen oxides are often trapped below the inversion layer, but are not exposed to sufficient ultra violet energy to cause the reaction that forms photochemical smog (see Figure 3a). However, on days when there is no fog or cloud cover, the reaction can take place and smog will form beneath the inversion layer (Figure 3b). The high frequency of clear, cloudless days in the Santa Clara Valley and in Saratoga makes these areas susceptible to the formation of photochemical pollutants.

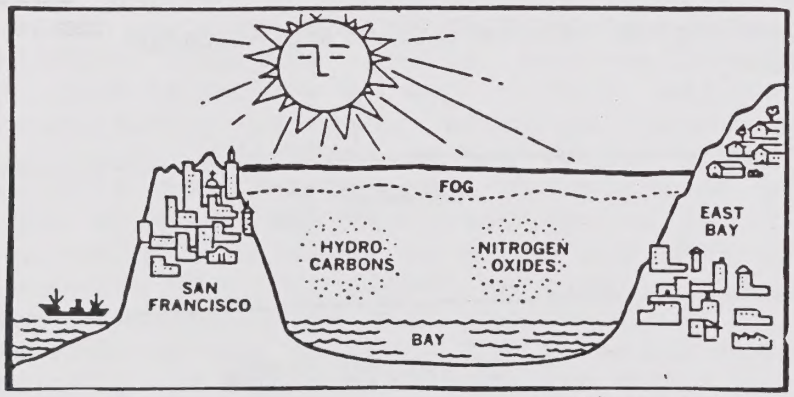


Figure 3a

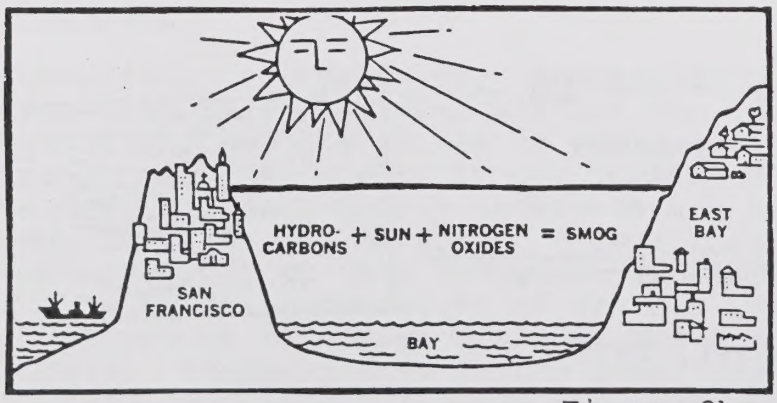


Figure 3b

Source: BAAQMD

AIR POLLUTION POTENTIAL RELATED TO EMISSIONS

In addition to atmospheric conditions, air pollution potential at a given location also depends upon the emission density in the surrounding air. Pollutant concentrations are measured according to federal and State standards established to protect human health. These pollutants, their primary sources and associated effects are described in this section.

There are two general categories of air pollutants. These are commonly referred to as "criteria" pollutants and "toxic" pollutants.

Criteria Pollutants

Pollutants that are subject to national ambient standards are often referred to as "criteria pollutants" because the Environmental Protection Agency (EPA) has established acceptable concentration levels for these pollutants according to certain human health and welfare criteria. National ambient air quality standards were first established by EPA pursuant to the 1970 Clean Air Act Amendments and are divided into two categories: primary standards designed to protect human health, and more stringent secondary standards to protect property and aesthetics. The primary standards were to be attained by the end of 1987 and maintained thereafter. In 1969, the State of California also established separate ambient air quality standards for the State, but these do not have a specific attainment date. Table 1 lists both the federal and State standards for the major criteria pollutants which include carbon monoxide, nitrogen dioxide, suspended particulates, lead and ozone.

Carbon Monoxide - Carbon monoxide (CO) is an odorless, colorless gas that is highly toxic. It is formed by the incomplete combustion of fuels, and its main source is automobiles. Carbon monoxide binds to hemoglobin, the oxygen-carrying protein in blood, and thus reduces the amount of oxygen reaching the heart and lungs. At high concentrations, this can cause heart difficulties in people with chronic diseases, reduced lung capacity and impaired mental abilities.

Nitrogen Dioxide - Nitrogen dioxide (NO2) is a reddish-brown gas, toxic at high concentrations, that results primarily from the combustion of fossil fuels under high temperature and pressure. Automobiles and industrial operations are the major sources of nitrogen oxides. The health effect associated with this pollutant is an increase in the incidence of chronic bronchitis and lung irritation.

Sulfur Dioxide - Sulfur dioxide (SO2) is a colorless gas with a pungent, irritating odor that is created by the combustion of fuel containing sulfur. It is also known to oxidize and form sulfur trioxide, which combines with moisture in the atmosphere to form a sulfuric acid mist. Sulfur dioxide damages and irritates lung tissue and accelerates the corrosion of materials.

TABLE 1

FEDERAL AND STATE AMBIENT AIR QUALITY STANDARDS
(see Explanation below)

Pollutant	Averaging Time	National Primary Standard	California Standard
Ozone	1-Hour	0.12 ppm	0.09 ppm
Carbon Monoxide	8-Hour	9.0 ppm	9.0 ppm
	1-Hour	35.0 ppm	20.0 ppm
Nitrogen Dioxide	Annual	0.05 ppm	-----
	1-Hour	----	0.25 ppm
Sulfur Dioxide	Annual	0.03 ppm	----
	24-Hour	0.14 ppm	0.05 ppm
	1-Hour	----	0.50 ppm
Total Suspended Particulates*	Annual Mean	75 ug/m3	----
	24-Hour	250 ug/m3	----
Suspended Particulate Matter (PM_{10})	Annual Mean	50 ug/m3	30 ug/m3
	24-Hour	150 ug/m3	50 ug/m3
Lead	24-Hour	1 ug/m3	----

*Former standard now substituted for by PM_{10}

EXPLANATION: All of the standards are measured in terms of the concentration of the pollutant in a volume of air. Ozone, carbon monoxide, nitrogen dioxide and sulfur dioxide are measured in parts per million (ppm). Total Suspended Particulates and Suspended Particulate Matter (PM_{10} - particulate matter less than 10 microns in diameter) are measured in micrograms per cubic meter (ug/m3). The standard figures reflect an average of readings taken over a specific period of time.

Source: U.S. Environmental Protection Agency; California Air Resources Board; Bay Area Air Quality Management District.

Suspended Particulates - Total suspended particulates (TSP) are solid and liquid particles of dust, soot, aerosols and other matter which are small enough to remain suspended in the air for a long period of time. A portion of the total particulate matter in the air comes from natural sources, such as wind-blown dust and pollen. Man-made particulate sources include combustion, Outomobiles, field burning, factories, unpaved roads, and grading and construction activities. The effects of high concentrations on human health include the aggravation of chronic diseases and heart/lung disease symptoms. Non-health effects include reduced visibility and soiling of surfaces. New standards for suspended particulates that are 10 microns or less in size (PM_{10}) recently have been adopted at both the State and federal levels. Particles of this size are extremely small, easily inhaled and are more directly associated with adverse health effects in humans. For this reason, the PM_{10} standard has replaced the TSP standard.

Lead - Atmospheric lead occurs in the form of airborne lead particles. The dominant source of lead in the urban atmosphere is the lead compounds contained in gasoline, although lead is now being phased out as a gas additive. Lead accumulates in body tissues and impairs blood function and nerve construction.

Ozone - Ozone (O3) is the most prevalent of the various oxidants found in the atmosphere. It is a colorless gas formed by the complex chemical reactions between hydrocarbons and oxides of nitrogen in the presence of sunshine. Unlike other pollutants, ozone is not emitted into the atmosphere from any source; rather, it is created from "ozone precursors", which are nitrogen oxides and hydrocarbons that emanate from combustion in factories and automobiles, and from the evaporation of solvents and fuels. The health effects of ozone are eye irritation and damage to lung tissue. Ozone also damages some materials, such as rubber, and may damage plants and crops.

Toxic Pollutants

In addition to criteria pollutants for which there are ambient air quality standards, there is a second class of regulated pollutants known as toxic, or hazardous pollutants. These pollutants are known to be injurious to humans even in small quantities, but are relatively uncommon. There are emission limitations for these pollutants rather than ambient air quality standards. To date, the toxic pollutants regulated by the Bay Area Air Quality Management District (BAAQMD) are asbestos, beryllium, mercury, vinyl chloride, benzene and lead, which is considered to be both a criteria and toxic pollutant. The emission limits for these pollutants are listed in Table 2. The recently enacted Tanner Bill (AB2948, 1986) requires that BAAQMD, together with the State Air Resources Board and the Department of Health Services, develop regulations controlling other toxic airborne contaminants as additional information becomes available.

TABLE 2

EMISSION LIMITS FOR HAZARDOUS POLLUTANTS

Substance	BAAQMD Emissions Limitations
Lead	15 lbs/day*
Asbestos	No visible emissions
Beryllium	10 grams/24 hours*
Vinyl Chloride	10 parts per million in gas stream*
Benzene	No detectable emissions from pumps, valves or compressors

*Other limits may apply depending on the process used and materials involved.

Source: Bay Area Air Quality Management District, Rules and Regulations Volume II, Regulation 11 as amended to May, 1988.

Air Pollutant Sources

In general, there are two types of air pollutant sources, stationary and mobile. Stationary sources (e.g. factories and refineries) are regulated by BAAQMD. As might be expected in a residential community such as Saratoga, there are no major stationary sources of air pollutants located within the City, nor is it likely that any will be located here in the future given the General Plan land use policy that limits the expansion of non-residential zoning districts. According to BAAQMD records, the nearest major industrial sources of air pollutants are the Kaiser Aluminum and Chemical Corporation and Kaiser Cement and Gypsum Corporation in Cupertino. However, there are a plethora of smaller scale pollution-causing activities that take place continuously in Saratoga, including the combustion of fuel for space and water heating, the use of fuels and solvents in commercial operations (e.g. gas stations and dry cleaners), fires, agricultural tilling and pesticide use, and construction activities.

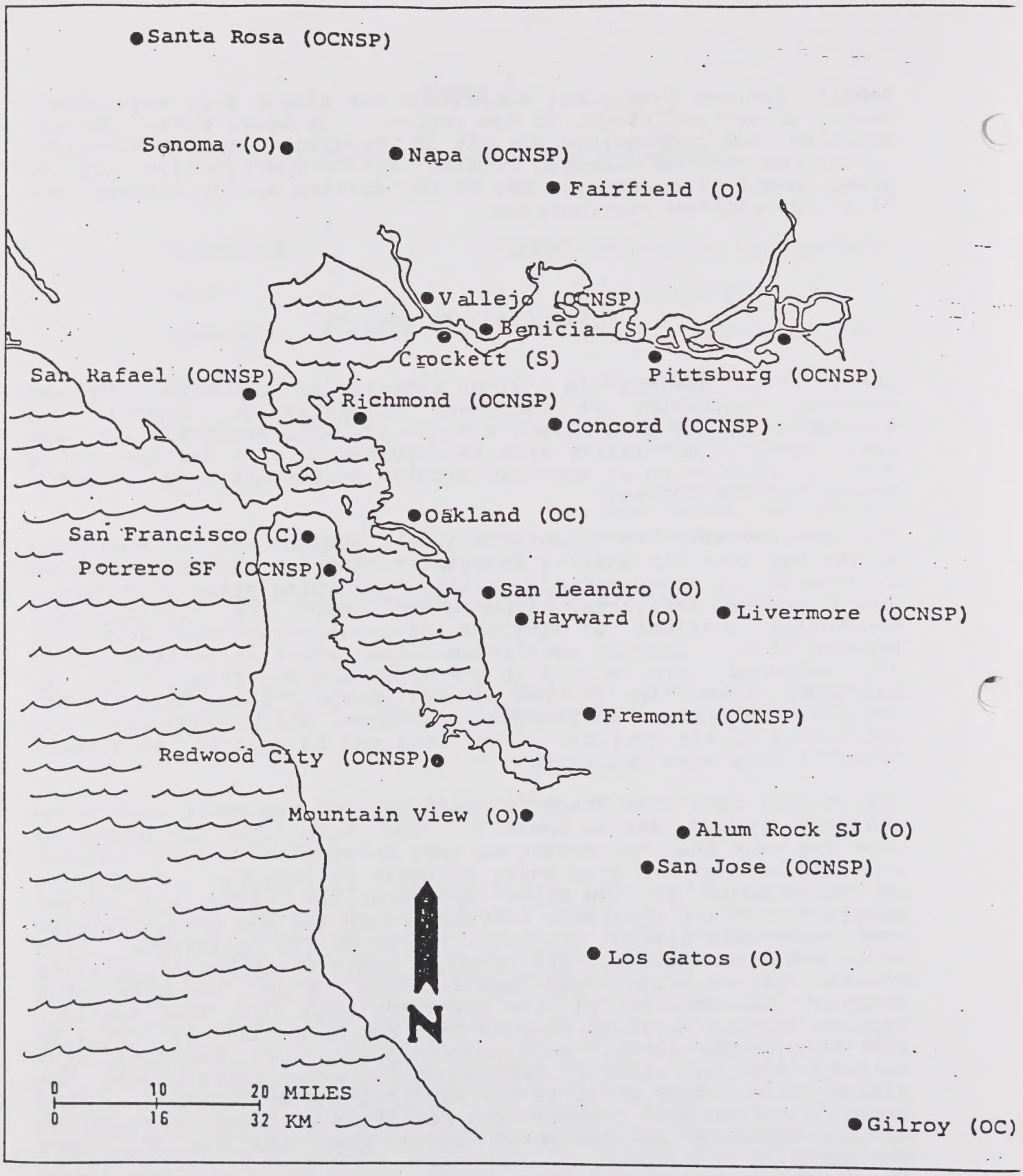
Mobile sources (vehicles) constitute the single most significant source of air pollutants in the region. In Santa Clara County, vehicles are responsible for 85% of the emitted carbon monoxide, 75% of the emitted nitrogen oxides, 47% of the reactive organic gases (ozone precursors), 55% of the emitted sulfur dioxide, and 7% of the emitted particulates.

MONITORING AIR QUALITY

Ambient air quality in a given location is discerned through routine monitoring of pollutant concentration levels. A discussion of the most recent air quality data available for the west Santa Clara Valley area is provided in this section along with a discussion of specific problem pollutants and probable trends for the future.

The concentration of pollutants in the ambient air is monitored by the Bay Area Air Quality Management District (BAAQMD) through a network of permanent air quality monitoring sites (Figure 4). There are no monitoring sites in Saratoga. The closest full monitoring stations to Saratoga are in downtown San Jose and Redwood City. Partial monitoring sites, where ozone levels only are measured, are located in Los Gatos and Mountain View. In addition, from time to time special projects (e.g. Highway 85) require extensive environmental review which includes the monitoring of air quality. This data can be used to supplement BAAQMD's data when available.

Air quality data from BAAQMD's south bay and peninsula monitoring stations is provided in Table 3. The table lists the number of days per year that the standards were exceeded from 1983 through 1986 for each of the five major criteria pollutants. Statistics on exceedances of the state standards for ozone and carbon monoxide are not available because BAAQMD and ARB concentrate on compliance with federal standards for those two pollutants. With only a few exceptions, the southern Santa Clara Valley stations closest to Saratoga (San Jose and Los Gatos) recorded more frequent exceedences of the standards than did the stations located further north at Redwood City and Mountain View. This is not surprising since, as discussed previously, regional wind patterns are such that air pollutants are often carried into the Valley from other parts of the Bay Area and are trapped by the surrounding mountain ranges. The result is a general degradation in air quality as one moves south down the San Francisco peninsula.



POLLUTANTS MONITORED
O = OZONE
C = CARBON MONOXIDE
N = NITROGEN DIOXIDE
S = SULFUR DIOXIDE
P = PARTICULATE

FIGURE 4: BAAQMD Ambient Air Monitoring Stations in the Bay Area

Source: BAAQMD

TABLE 3

NUMBER OF DAYS PER YEAR STANDARDS EXCEEDED (1983-87)

Pollutant	Year	S.J.		R.C.		L.G.		M.V.	
		Max.*	/Days	Max.	/Days	Max.	/Days	Max.	/Days
Ozone	1983	-	9	-	2	-	12	-	5
(National Standard,	1984	.15	4	.11	0	.17	13	.12	0
0.12 ppm)	1985	.14	2	.13	1	.16	4	.12	0
	1986	.14	1	.10	0	.12	0	.13	1
	1987	.14	1	.12	0	.13	4	.14	4
Carbon Monoxide	1983	-	2	-	1	-	-	-	-
(National Standard,	1984	11.4	5	5.6	0	-	-	-	-
9.0 ppm)	1985	15.6	16	6.4	0	-	-	-	-
	1986	11.0	4	6.4	0	-	-	-	-
	1987	7.4	0	5.5	0	-	-	-	-
Nitrogen Dioxide	1983	-	0	-	0	-	-	-	-
(Calif. Standard,	1984	.18	0	.9	0	-	-	-	-
0.25 ppm)	1985	.19	0	.13	0	-	-	-	-
	1986	.16	4	.13	4	-	-	-	-
	1987	.17	0	.12	0	-	-	-	-
Sulfur Dioxide	1983	-	0	-	0	-	-	-	-
(Calif. Standard,	1984	.4	0	.2	0	-	-	-	-
0.50 ppm)	1985	.4	0	.2	0	-	-	-	-
	1986	.7	0	.3	0	-	-	-	-
	1987	.4	0	.3	0	-	-	-	-
Suspended Particulates	1983	-	2	-	0	-	-	-	-
(National Secondary***	1984	76	2	44	0	-	-	-	-
Standard, 150 ug/m3)	1985	**	**	44	0	-	-	-	-
	1986	**	**	44	0	-	-	-	-
	1987	**	**	52	0	-	-	-	-

*Max= Maximum concentration levels
**Data invalid due to heavy construction activity in progress near the monitoring site.
***The concentration levels for suspended particulates is not a maximum but rather the annual geometric mean.
Source: BAAQMD

With regard to specific pollutants, Table 3 also shows that the standards for nitrogen dioxide, sulfur dioxide and suspended particulates are rarely exceeded, while violations of the ozone and carbon monoxide standards are much more frequent. Sulfur dioxide is primarily associated with chemical and refining industries, and strict controls on these processes are instrumental in keeping emission levels in check. Nitrogen oxides are largely produced by vehicles and high temperature industrial operations; although San Jose often has the highest concentrations in the Bay Area, this has yet to pose a serious

problem. The federal secondary standard for suspended particulates is exceeded from time to time at the San Jose monitoring site, but intensive construction activity currently in progress near the site makes recent data suspect. As such, it is difficult to make any definitive statement about suspended particulate levels in the South Bay at this time. The two "problem" pollutants, ozone and carbon monoxide are discussed in greater detail below.

Ozone - The federal ozone standard is 0.12 parts per million (ppm). Compliance with this standard is determined by a three year average of exceedances known as the Expected Annual Exceedance (EAE). A three year average is used because concentrations are heavily dependent upon weather patterns and may vary substantially from year to year. An EAE of 1.0 is considered to be in compliance with the standard. Table 4 shows the number of days with maximum hourly concentrations exceeding the federal standard for BAAQMD's permanent south bay and peninsula monitoring sites and for selected other sites where data was available. As the Table shows, BAAQMD was able to obtain data from a temporary monitoring station located in Saratoga during the years 1976 to 1981. The readings indicate that Saratoga's EAE for ozone was somewhat lower than the readings for San Jose and Los Gatos, but still exceeded the federal standard. As previously mentioned, figures for exceedances of the state ozone standard are not available.

The Expected Annual Exceedances for the south bay stations have generally decreased since the late 1970's. For the Bay Area in general, annual exceedences of the federal ozone standard have decreased as shown in Figure 5. This downward trend may be due in part to new controls placed on both stationary and mobile sources of ozone precursors. Whether or not this trend continues depends on future rates of population and traffic growth. In some areas, including the Santa Clara Valley, fast and extensive growth may continue to counterbalance the effect of increased controls. Current projections of emissions in the Bay Area show that ozone precursors will, in the absence of stricter controls, reach a low point around 1987 to 1990 and then begin to climb again. Ozone levels also may be assumed to begin increasing after this point as traffic and population growth continues.

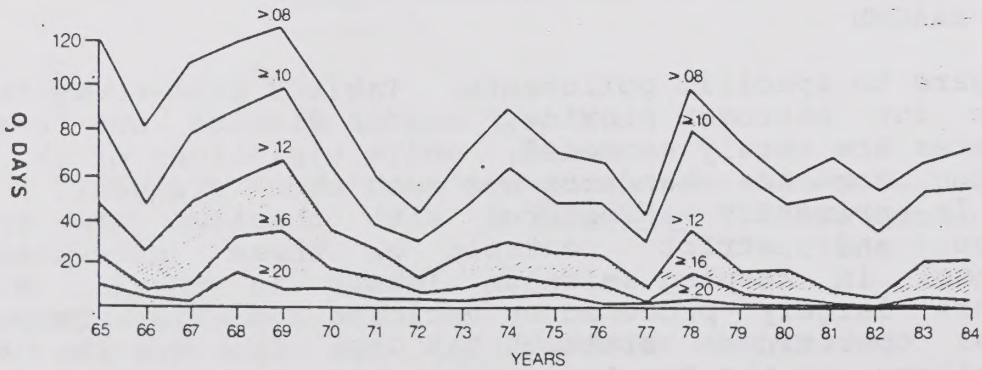


Figure 5: Trend in Ozone Standard Exceedences
Source: BAAQMD

TABLE 4

OZONE - NUMBER OF DAYS EXCEEDING FEDERAL STANDARD

Expected (Average) Annual Exceedances(EAE)*

Station	Dates									
	1976 to 1978	1977 to 1979	1978 to 1980	1979 to 1981	1980 to 1982	1981 to 1983	1982 to 1984	1983 to 1985	1984 to 1986	1985 to 1987
Redwood City	1.0	.7	1.0	1.3	1.0	1.0	0.7	1.0	0.3	0.3
Mt. View	1.0	1.0	0.7	1.1	0.8	2.5	1.7	1.7	0.3	1.7
Sunnyvale**	2.5	1.0	-	-	-	-	-	-	-	-
San Jose	7.4	6.4	6.4	2.7	1.3	3.3	5.3	6.0	3.3	1.3
Saratoga**	7.3	4.9	4.9	2.4	-	-	-	-	-	-
Los Gatos	9.0	11.9	16.9	9.9	6.7	4.7	8.4	9.7	5.7	2.7

*Number of days with maximum hourly concentration more than 12 pphm (parts per hundred million).
**Temporary stations no longer in existence.

Source: BAAQMD

Carbon Monoxide - A second potential air quality problem related to growth is carbon monoxide emissions. Unlike ozone, carbon monoxide is a "localized pollutant"; high concentrations of the pollutant are found only near the source, although there can be a widespread "cloud" providing high background levels. The major source of carbon monoxide is automobiles, so higher concentrations are generally found near heavily travelled roadways. The emission rate of carbon monoxide is also highly dependent on traffic speed, with emission levels increasing significantly as traffic slows and idling increases. Carbon monoxide emissions are, therefore, greatest under congested traffic conditions.

Some of the highest concentrations of carbon monoxide in the Bay Area are recorded at BAAQMD's monitoring site in San Jose, which is the permanent station closest to Saratoga. However, since carbon monoxide levels vary widely from one location to another, readings from downtown San Jose are not necessarily a good measure of carbon monoxide levels in Saratoga. Ambient carbon monoxide sampling conducted by Caltrans from November 1983 to February 1984 for selected sites along the proposed West Valley Freeway corridor confirms this situation. The maximum 8 hour concentration recorded at the sampling sites in Saratoga was 4.5 ppm, while in downtown San Jose it ranged from 6.0 to 13.5 ppm.

The lack of air quality monitoring information makes it difficult to make definitive statements about carbon monoxide levels in Saratoga. For the Bay Area in general, however, carbon monoxide levels have been decreasing since the late 1970's as newer autos have met increasingly stringent emission control requirements.

In San Jose, for example, the number of days on which the federal 8 hour standard (9ppm) was exceeded has decreased dramatically from 61 days in 1976 to 0 days in 1987. However, as with ozone, this trend could be reversed; an increase in both traffic volumes and congestion levels could potentially exacerbate carbon monoxide problems.

AIR QUALITY PLANNING AND REGULATION

In the previous section, the nature and magnitude of the air pollution problem in the Santa Clara Valley was defined. This section discusses the regulatory framework that has been established to address this problem.

National, State and Regional Efforts

Under the 1977 amendments to the Clean Air Act, each state is required to prepare a State Implementation Plan (SIP) for meeting the National Ambient Air Quality Standards (NAAQS). The SIP is a compilation of all local Air Quality Plans in the state, along with any additional state measures required to attain clean air standards. The Bay Area Air Quality Management Disrict (BAAQMD), the Metropolitan Transportation Commission (MTC) and the Association of Bay Area Governments (ABAG) have jointly prepared an Air Quality Plan for the Bay Area which contains a number of strategies designed to improve air quality. The Plan focuses on the reduction of ozone, carbon monoxide and suspended particulate levels, since the national standards for these pollutants are exceeded in the Bay Area.

The strategies proposed include stationary source controls which are implemented by BAAQMD, and mobile source controls generally enforced by the California Air Resources Board (ARB). Among the more important strategies now being employed is the automobile inspections and maintenance program (smog check) which requires automobile owners to have their cars checked for emissions as a condition of registration.

While all of these control measures have resulted in a significant reduction in emissions and improvement in Bay Area air quality, they have not been sufficient to bring about attainment of the national standards by the statutory deadline of December 31, 1987. The region's inability to meet the standards could result in sanctions imposed by the Environmental Protection Agency (EPA) on construction of major new sources of pollution, such as power plants and industrial dry cleaners, and a cutback of federal funds for highway construction and sewage treatment plants. The Bay Area is only one of about 70 other regions that may be subject to these sanctions.

At this time it is uncertain if EPA will impose the sanctions as authorized by the 1977 Clean Air Act. EPA is reluctant to impose sanctions on those metropolitan areas (including the Bay Area) that have produced acceptable attainment plans and have made good

faith efforts toward implementation. With the passage of a new Clean Air Act not in sight, the EPA has attempted to provide guidance to nonattainment areas in its proposed post-1987 policy. The policy outlines a process whereby local air quality plans are to be updated and subsequently reviewed by EPA. Only after a plan has been formally disapproved by EPA can sanctions be imposed. Meanwhile, congress included an extension of the deadline until August 31 1988 in their December 1987 budget resolution, allowing more time to work on revisions to the Act. In the interim, the Bay Area's co-lead agencies for air quality planning (BAAQMD, ABAG, and MTC) are making preparations for a new round of planning in the hope that new federal legislation will provide timely statutory guidance.

Existing Policies and Programs in Saratoga

While most air quality planning is done at the state and regional levels, local agencies can and do adopt policies and programs that address air quality issues. The City of Saratoga currently has a few General Plan policies and ordinances designed to prevent the degradation of air quality. Specifically, Goal 3.0 and Policy 3.2 of the Conservation Element of the General Plan state the following:

> "Preserve the quality of the natural environment and the character of the City through appropriate regulation of site development." (Goal 3.0)
>
> "The impact on air quality shall be evaluated in connection with development and highway construction." (Policy 3.2)

In addition, the City Code contains the following ordinances relating to air quality:

1. Hazardous Materials (Chapter 8) - This ordinance indirectly addresses air pollution through the regulation of storage and handling of hazardous materials, which have the potential to emit toxic fumes into the air;

2. General Restrictions on Uses in Commercial and Limited Industrial Districts (Sections 15-19.060 & 15.20.040) - These sections prohibit uses which emit air pollutants, smoke, dangerous emissions or noxious odors, and require all uses to comply with current Air Pollution Control District regulations;

3. Dust and Dirt Control during Grading (Section 16-55.160(k)) - This section requires that graded surfaces be wetted or otherwise suitably contained to prevent excessive dust conditions;

4. Regulation of Smoking in Certain Places (Article 7-35) - This ordinance was adopted to protect non-smoker's rights to breathe smoke-free air in enclosed areas that are accessible to the general public during normal business hours.

AIR QUALITY ISSUES IN SARATOGA

Residential Wood Combustion

Recent research indicates that smoke from wood-burning fireplaces and stoves may constitute a significant threat to air quality and public health. This is particularly true for communities located in sheltered valleys where circulation is poor, surface-based temperature inversions occur frequently in the winter, and wood is used as a residential heating fuel.

To some extent, these circumstances exist in Saratoga. Although wood is not extensively used here as a home heating fuel, most homes have at least one fireplace, and in the larger, newer homes, multiple fireplaces are common. Saratoga is located in a sheltered valley that is subject to frequent temperature inversions. Although no monitoring has been done, it is likely that wood smoke from residential fireplaces and stoves adds significantly to local pollution levels in the winter. In fact, BAAQMD tentatively estimates that wood burning could contribute as much as 15-25% of the carbon monoxide in the Bay Area's ambient air.

In addition to carbon monoxide, other pollutants present in wood smoke include organic gases, arsenic and particulates consisting of soot and condensed organic matter. Some of this organic material is chemically changed during the combustion process to form a class of chemicals called polycyclic aromatic hydrocarbons (PAHs). Some of these chemicals are toxic, some are cancer-causing, and some are capable of causing biological mutations. For example, benzo-a-pyrene, a known carcinogen found in cigarette smoke, has also been found in wood stove emissions.

A 1987 study of toxics in the Santa Clara Valley conducted by the Environmental Protection Agency (EPA), in conjunction with local industry and government officials, tentatively identifies PAHs as one of the larger known categories of toxic risk in the valley and estimates that residential wood combustion contributes 87% of the PAHs emitted into the local atmosphere.

Regional and local agencies are encouraged by EPA to increase their efforts to further study and address the residential wood combustion issue. This can be accomplished by supporting continued research which could eventually lead to the development of appropriate regulations. Through education, the public can be informed of the dangers of wood smoke and of "clean" burning practices aimed at minimizing the harmful emissions from wood combustion. For example, certain design features make some wood stoves operate more efficiently; these features include internal baffle plates to regulate the flow of air within the stove and proper firebox insulation which increases the burning temperature, thereby reducing emissions. Also, some fuels are more desireable than others; air-dried hardwoods are preferred over freshly cut wood because the higher moisture content hinders hot, clean burning. Kindling, cardboard and

loose paper should only be used to start a fire, while household rubbish and treated wood should be avoided altogether. Finally, wood burning in fireplaces and stoves should be curtailed when exceedances of air quality standards are expected.

West Valley Freeway

The West Valley Freeway will be constructed as an extension of Highway 85 through Saratoga within the next 3-5 years. The design of the freeway is dictated by a Performance Agreement between the City, Caltrans and the Traffic Authority which was adopted by the City Council on March 2, 1988. There is an air quality relationship to two aspects of this freeway design, the depressed profile and the elimination of interchanges in Saratoga. A depressed freeway profile results in somewhat higher pollutant concentrations along the freeway locally, because air circulates less freely and pollutant dispersal is less efficient in the narrow v-shaped valley formed by the lowered roadway. However, a depressed profile provides significant benefits in terms of noise attenuation and aesthetic values, which outweigh the slight increase in CO levels. The no-interchange design eliminates potential CO problems associated with idling cars at freeway interchange locations and the additional traffic congestion along arterials serving the interchanges. Ongoing negotiations between Caltrans, the Traffic Authority and cities along the corridor may result in other such design alternatives that were not specifically evaluated in the FEIS prepared by Caltrans for the freeway project. Supplemental environmental studies will continue to be made.

Sensitive Receptors

While everyone is exposed to and affected by air pollutants to some degree, it is recognized that some people are more susceptible to the harmful effects of air pollutants than others. BAAQMD defines "sensitive receptors" as those facilities most likely to be used by the elderly, children, infirm or persons with particular sensitivity to air pollutants. Examples are hospitals, schools, and convalescent homes. Figure 6 shows the location of such sensitive receptors in Saratoga.

Particulates

In developing strategies for attaining national air quality standards, most regional efforts are directed toward the reduction of ozone and carbon monoxide levels. Violations of the new PM_{10} federal particulate standard are not common; only 2 exceedances of the 24 hour standard were recorded in San Jose in 1985, and there have been none since then. However, there is increasing concern about this pollutant in the South Bay. The Santa Clara Valley Integrated Environmental Management Project (IEMP) sponsored by EPA and completed in September, 1987, revealed that exposure to particulates even at current levels results in significant health and welfare effects. The study attempted to quantify the benefits that might be realized by

FIGURE 6: Sensitive Receptors

further reducing particulate levels to meet the stricter California State standard. For example, it was estimated that over $65 million in materials damages could be avoided if the California PM_{10} standard was reached. In comparison, the damages caused by ozone that could be avoided by meeting the stricter state ozone standard amounted to less than $100,000. For this reason, the study recommends that state and regional agencies concerned with air quality (ARB and BAAQMD) increase the priority of controlling particulate emissions.

Local agencies can help control particulate emissions from local sources. The Santa Clara Valley IEMP suggests that cities and counties work with BAAQMD to develop, adopt, and implement local street sweeping programs and other dust abatement measures. Other recommendations include further regulation and enforcement of construction-related particulate control programs and the encouragement of voluntary emission reductions through education and actions such as carpooling, reduced use of aerosols and other consumer solvents, and reduced use of power tools (e.g. leaf blowers, power mowers, etc.). Together these small efforts would help significantly to reduce particulate emissions.

GOALS, POLICIES AND IMPLEMENTATION MEASURES

As previously mentioned, the City's General Plan currently has only one policy and implementation measure relating to air quality. This is located in the Conservation Element as CO.3.2. Since this Air Quality document will be a section of the Conservation Element, it is recommended that the existing Air Resources section on pages 3-39 and 3-40 of the General Plan be deleted and replaced with this new text. It is further recommended that the new goal, policies, and implementation measures for air quality be added to the end of the existing goal section of the Conservation Element (pages 2-16 through 2-19 of the General Plan). The existing policy 3.2 will be reworded and relocated to this new section, which will be given the number 8.0.

The overall goal for air quality in Saratoga is to preserve Saratoga's air resources and protect citizens from the potential harmful effects of air pollution. There are four policies and implementation measures for the achievement of this goal. The first policy relates to assessing air quality impacts during the development review process. The second policy relates to coordinating the City's air quality planning efforts with other agencies and jurisdictions. The third relates to monitoring air quality in Saratoga, and the fourth relates to efforts to reduce local sources of air pollution.

CO.8.0(Goal) Preserve the quality of Saratoga's air resources and protect the citizens from the potentially harmful effects of air pollution.

CO.8.1(Policy) Impacts on air quality shall be evaluated in connection with development proposals and highway construction.

CO.8.1(Imp) Appropriate mitigation measures for air quality impacts shall be identified and implemented through the City's environmental review and permit-issuing procedures.

CO.8.2(Policy) Coordinate air quality planning efforts with other jurisdictions and with local, regional and state air quality agencies.

CO.8.2(Imp) The City should maintain and provide to BAAQMD and other agencies data regarding land use and potential development, public transit needs, sensitive receptors, and other issues related to air quality in Saratoga.

CO.8.3(Policy) Encourage the monitoring of air pollutants in Saratoga on a continuous basis.

CO.8.3(Imp) The City shall ask BAAQMD, Caltrans and private developers, if appropriate, to assist in the financing, installation and operation of an air quality monitoring station in Saratoga.

CO.8.4(Policy) Encourage the reduction of local sources of air pollution such as dust, smoke and vehicle emissions.

CO.8.4(Imp) The City shall enforce existing regulations relating to air quality and promote public education and awareness of air quality issues.

GLOSSARY

Air Basins - divisions of California established by the Air Resources Board, based on meteorological and geographical conditions.

Air Monitoring - sampling for and measuring of pollutants present in the atmosphere.

Air Pollution - the presence of man-made gases and suspended particles in the atmosphere in excess of air quality standards.

Air Pollution Potential - the tendency for high pollutant concentrations to develop at a given location.

Air Quality Criteria - the varying amounts of pollution and lengths of exposure at which specific adverse effects to health and comfort take place.

Air Quality Management District (AQMD) - a regional agency charged with controlling pollutants discharged into the atmosphere from stationary sources. The Bay Area Air Quality Management District (BAAQMD) is the regional district for Saratoga; it includes all seven Bay Area counties (Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, and Santa Clara) and the southern halves of Solano and Sonoma counties.

Air Quality Standard (AQS) - the prescribed level of a pollutant in the outside air that connot be exceeded during a specific time in a specified geographical area.

Air Resources Board (ARB) - the State of California's agency responsible for air pollution control.

Ambient Air - any portion of the atmosphere not confined by four walls and a roof; outside air.

Association of Bay Area Governments (ABAG) - regional planning agency for the San Francisco Bay Area.

Atmospheric Stability - the atmosphere's tendency to suppress or promote vertical airflow. The vertical movement of air is often referred to as "mixing". Under stable conditions, warm air's tendency to rise is suppressed. When atmospheric conditions are unstable, warm air rises freely, mixing with cooler air aloft.

Carbon Monoxide (CO) - a colorless, odorless, toxic gas produced by the incomplete combustion of carbon-containing substances. One of the major air pollutants, it is emitted

in large quantities by exhaust of gasoline-powered vehicles.
Clean Air Act (CAA) - the federal legislation that provides the legal basis for the national clean air program.

Combustion - burning, that is, the production of heat and light energy through chemical change; usually oxidation of hydrocarbon fuel.

Environmental Protection Agency (EPA) - the federal agency responsible for air quality.

Fossil Fuels - coal, oil, and natural gas; so-called because they are the remains of ancient plant and animal life.

Hydrocarbon - any of a vast family of compounds containing carbon and hydrogen in various combinations; found especially in fossil fuels. Some of the hydrocarbon compounds are major air pollutants; they may be active participants in the photochemical process or affect health.

Inversion - the phenomenon of a layer of warm air over cooler air below. A special problem in polluted areas because the contaminating substances cannot be dispersed vertically through the layer of warm air.

Micron - a unit of length equal to one thousandth of a millimeter (1 millionth of a meter) or about 1/25,000 of an inch.

National Ambient Air Quality Standard (NAAQS) - an air quality standard promulgated by the EPA.

Nitrogen Oxides (NOx) - gases formed in great part from atmospheric nitrogen and oxygen when combustion takes place under conditions of high temperature and high pressure; considered a major air pollutant.

Ozone (O3) - a pungent, colorless gas, toxic in high concentrations. A product of the photochemical process, it is a major air pollutant.

Particulate - a particle of solid or liquid matter; soot, dust, aerosols, fumes and mists.

PM_{10} - particulate matter less than 10 microns in size.

Parts Per Million (PPM) - the number of parts of a given pollutant in a million parts of air. One PPM equals .0001%.

Photochemical Process - the chemical changes brought about by the radiant energy of the sun acting upon various polluting substances. The product is known as photochemical smog.

Polycyclic Aromatic Hydrocarbon (PAH) - class of chemicals

that may be formed during the combustion of wood or other organic matter. Some of these chemicals may be toxic and/or carcinogenic.

Precursor - a number of compounds that physically change in composition after being emitted into the air and eventually turn into air pollutants. Organic compounds and nitrogen oxides are precursors for ozone.

Sensitive Receptor - a facility that is often used by a segment of the population (e.g. the elderly, young children and persons with respiratory problems) that tends to be particularly susceptible to the harmful health effects associated with air pollutants.

Smog - a term used to describe many air pollution problems, it is a contraction of smoke and fog; in California, it is usually used to describe ozone and/or the irritating haze resulting from the sun's effect on pollutants in the air, including those from automobile exhaust.

State Implementation Plan (SIP) - state plan for attaining national air quality standards.

Subsidence - the downward movement of air. Subsidence typically occurs on the eastern edges of subtropical high pressure cells, such as the Pacific High situated off the coast of California. Subsiding air results in clear, stable weather conditions.

Total Suspended Particulate Matter (TSP) - a statistical measurement of particulate air pollution.

REFERENCES

AGENCY PUBLICATIONS

1. "Air Quality and Urban Development: Guidelines for Assessing Impacts of Projects and Plans"; Bay Area Air Quality Management District; Nov. 1985.

2. Air Quality Element, City of Campbell General Plan; City of Campbell Planning Dept.; Jun 8, 1987.

3. "Air Quality Impact and Mitigation Measures"; City of Cupertino General Plan Amendment 1-GPA-80, Technical Appendix D; May 23, 1983.

4. "Air Quality in Palo Alto"; Donald Ballanti, prepared for City of Palo Alto; May 1986.

5. Air Quality Goals and Policies, City of San Jose General Plan, Horizon 2000; 1984.

6. "Air Quality Handbook"; Bay Area Air Quality Management District; 1985-86.

7. Circulation Element, City of Mountain View General Plan; 1982.

8. "Citywide Land Use and Transportation Study: Traffic and Air Quality Impacts of Six Alternative Development Scenarios"; City of Palo Alto Planning Dept.; Nov. 1986.

9. "CO Microscale Screening Procedure"; Caltrans, Dec. 1982.

10. Conservation and Historic Preservation Element, Town of Los Gatos General Plan; 1985.

11. "Contra Costa County Model Transportation Systems Management Ordinance"; Contra Costa Transportation Advisory Committee; Feb. 1987.

12. "Environmental Constraints Analysis of Monterey County, Part III, Air and Water Quality"; Monterey County Planning Dept.; Apr 1981.

13. "Final EIS, Route 85 Transportation Corridor Project"; Caltrans, Federal Highway Administration; Vol. 1, July 1987.

14. Monterey County General Plan; Monterey County Planning Dept.; Sept. 1982.

15. "Route-85 Corridor Study"; Barton-Aschman Associates,

Inc.; Nov. 1987.

16. Santa Clara County General Plan; Santa Clara County Planning Dept.; Mar. 1982.

17. "Santa Clara Valley Integrated Environmental Management Project, Stage II Report"; U.S. Environmental Protection Agency; Sept. 1987.

18. "Ozone Measurements and Trends in the San Francisco Bay Area, 1965-84"; Bay Area Air Quality Management District; 1985.

19. "Wood Stove Features and Operation Guideline for Cleaner Air"; U.S. Environmental Protection Agency; Sept. 1983.

ARTICLES

1. "Acid Rain: Acid Deposition in the Atmosphere"; Bay Area Monitor; Sept.- Oct. 1987.

2. "Air Quality Elements in General Plans: Some Comments Focusing on Transportation and Land Use Options"; Elizabeth Deakin; May 1987.

3. "Air Quality Elements in Local Plans"; Bay Area Monitor; Sept.- Oct. 1986.

4. "Air Quality Update"; David L. Calkins, as presented at the League of California Cities 1988 Planning Commissioners Institute in Anaheim, CA.; Mar. 10, 1988.

5. "Clean Air Deadline"; Bay Area Monitor; Jan.- Feb. 1988.

6. "Clearing the Air"; Planning; Sept. 1987.

7. "Ozone: A Califormia Problem" and "Quest for Solutions"; Bay Area Monitor; Special Edition, Fall 1986.

8. "Santa Clara County Integrated Environmental Management Project Revisited"; Bay Area Monitor; Nov.- Dec. 1987.

9. "Santa Clara County's Killing Air"; San Jose Mercury; May 29, 1987.

10. "Smog Check - How is it Working"; Bay Area Monitor; July - Aug. 1987.

11. "Status of Bay Area Air Quality Planning"; Bay Area Monitor; Mar.- Apr. 1988.

12. "Study Shows Santa Clara County Air Deadly"; Times Tribune; Jun. 1, 1987.

13. "The Clean Air Act's Impending Construction Ban"; Urban Land; Nov. 1987.

14. "To Breathe or Not to Breathe, That is the Question"; San Jose Mercury; Nov. 10, 1987.

15. "Toxic Chemicals Widespread in Air Throughout State"; San Jose Mercury; Oct. 22, 1987.

SAFETY ELEMENT

CITY OF SARATOGA

Adopted by City Council

September 16, 1987

SAFETY ELEMENT

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PURPOSE AND GOAL OF SAFETY ELEMENT

The Safety Element is a mandatory element of the General Plan required by SB 351, an act which became law on February 23, 1971. Originally addressed in two separate elements of the General Plan, the Safety Element and the Seismic Safety Element are combined into one element, the Safety Element, under California Government Code Article 5-65302 (1986).

The purpose of the Safety Element of the General Plan is to protect the community from any unreasonable risks associated with fire, geological activity and instabilities, flooding, combinations of these hazards, and the ability of manmade structures to withstand these conditions. The element also addresses dangers which might result from poor emergency service, difficult access, and lack of preparedness or public information. Existing emergency services are assessed and criteria for types and intensities of land use in undeveloped areas are recommended.

HAZARD IDENTIFICATION

The identification of hazards that affect the City is the initial step in the safety planning process. It is also the most important stage in this process since inaccurate hazard identification and the formulation of inadequate safety land use policies could result in unnecessary loss of life, injury, and property damage.

The natural hazards that have affected Saratoga in the past and those that may affect it in the future can be identified with a high degree of accuracy. Geologic, flood and fire hazards have all caused considerable damage within the community in the past, while recent earthquakes have been minimal in their damaging effects. Although the future extent of natural hazards is unknown, in all probability the future will include the same types of hazards as have occurred in the past. Accurate hazard identification is an accounting of historical information to be used as the basis for the evaluation of the future and the risks involved in relation to current and proposed land uses.

HAZARDS OF LAND INSTABILITY

The physical and geologic characteristics of Saratoga have the potential to produce geologic related problems for land development. Land development in areas of geologic instability can subject life and property to hazards caused by both seismic and non-seismic conditions. Many hazards occur when property is developed in ways which are unsuitable to geologic conditions in the area. When structures or roads are built on geologically unstable land, such as landslide areas or unstable slopes and soils, there is a definite risk to the community.

Geologic hazards are unavoidable in California. However, some geologic conditions represent greater hazards than others. Faulting and unstable bedrock present great risks, while surface instabilities can often be engineered to make construction safe. When unstable soil combines with steep slope, development can be hazardous and the environment is endangered by potential landslides. Recognizing and delineating the geotechnical hazards which could result in injuries, property damage, and economic or social dislocations is an important function of the city planning process to protect the public health, safety, and welfare of the community.

The background geotechnical data for the Safety Element of the City of Saratoga's General Plan is contained in the Saratoga Geotechnical Report (1974); the Ground Movement Potential Maps and Geologic Hazard Analysis of the Upper Calabazas Creek Watershed and of the Congress Springs Study Area by William Cotton and Associates (1980); and also in the Geologic Hazards Analysis of the Lower

Saratoga Hillside Area by Terratech (1985). Included here is a summation of that data, and additional geotechnical information which has been compiled from more recent site specific geotechnical investigations.

General Geology and Physical Characteristics

Topography: The topography of Saratoga includes the low-lying relatively flat valley floor and the northwestern foothills. Outside the city limits, but within Saratoga's Sphere of Influence, are the Castle Rock portions of the Santa Cruz Mountains. These mountains are very rugged, comprised of steep canyons and sharp to rounded ridge tops.

Vegetation: The mountain areas in the Sphere of Influence have a solid cover of vegetation. Hardwood trees of oak and madrone are abundant in this area, as well as redwood and douglas fir. The canyon floors near streams are covered with sycamore, elder and maple trees. Much of the area is densely covered with chaparral, with only a few areas covered with grass.

Geology: The dominant geologic feature within Saratoga's Sphere of Influence is the San Andreas fault zone, bisecting the mountainous portion of the terrain. The fault zone determines the geology and topography of the area by separating two different rock assemblages and their associated erosional characteristics. The fault zone is composed of a complex system of fault traces and fractured rock.

The rock formations to the east of the San Andreas fault are composed of sandstone, shale, volcanic rocks, some diabase and gabbro and also large shear zone areas. The mountain area is separated from the flat area within the city limits by the Santa Clara Formation, composed of unconsolidated to semi-consolidated gravel, sand and clay.

The valley floor of Saratoga is comprised of several alluvial fan deposits from the creeks and streams flowing from the mountainous area. The alluvium is composed of unconsolidated particles consisting of clay, silt, sand and gravel. This is Class I and II agricultural soil and is considered fertile by the United States Conservation Service.

Geotechnical Terrain Units and Related Hazards

There are large areas of the City and its Sphere of Influence which have similar bedrock and soil characteristics. These areas of similar geotechnical characteristics are designated geotechnical terrain units. There are five such terrain units in Saratoga and its Sphere of Influence (Map 1: Geotechnical Terrain Units): San Andreas Rift (I), Foothills (II), Saratoga Mountain (III), Skyline (IV), and Valley Floor (V).

KEY FOR MAP 1

GEOTECHNICAL HAZARD EVALUATION AND RECOMMENDATIONS FOR SARATOGA TERRAIN UNITS

	TERRAIN UNIT				
	San Andreas Fault Zone I	Foothills II	Bollman III	Skyline IV	Valley Floor V
NATURAL SEISMIC HAZARDS					
Possibility of Surface Rupture	Definite	Limited	Limited	Limited	Unlike
Ground Shaking Intensity:					
Magnitude 6 - San Andreas	VI	VI	VI	V	VI
Magnitude 8.3 - San Andreas	X	VIII - IX	IX	IX	VIII -
Ground Failure Probability:					
Landslides	High	High	High	Medium	Low
Subsidence	Low	Low	N/A	N/A	Medium
Liquefaction	N/A	N/A	N/A	N/A	Medium
Ground Lurching	Low	Low	N/A	N/A	Low
Flooding	Possible	N/A	N/A	N/A	Local
Structural Hazards	Very High	High	High to Moderate	Moderate	High
RECOMMENDATIONS					
Geotechnical Terrain Unit's Ability to Support Urban Residential Development	No	Controlled	No	No	Yes
Geotechnical Terrain Unit's Ability to Support Rural Residential Development	No	Yes	Yes	Yes	N/A
Geological Investigation Required	N/A	Yes	Yes	Yes	N/A
Soils Investigation Required	N/A	Yes	Yes	Yes	Yes

Source: Fugro, Inc. for Williams & Mocine Geotechnical Report (1974)

The following conclusions can be made based on an evaluation of the geotechnical data for each terrain unit:

1. Terrain Unit I (not shown) cannot support urban residential development but can support very limited rural residential development in accordance with site specific geotechnical studies. The Santa Clara County General Plan states that specific hazard areas within this terrain unit must be placed in permanent open space.

2. Terrain Unit II can support both controlled urban residential development and rural residential development in accordance with site-specific geological and soils investigations.

3. Terrain Unit III cannot support urban residential development but can support rural residential development in accordance with site-specific geological and soils investigations.

4. Terrain Unit IV cannot support urban residential development but can support rural residential development in accordance with site-specific geological and soils investigations.

5. Terrain Unit V can support urban residential development. Geological investigation is not necessary, but soil analyses should be required.

Additional data on each terrain unit is available in the 1974 Geotechnical Background Report. This data is supplemented by the Geology and Soils section of the Northwestern Hillside Specific Plan (adopted in 1981).

Landslides and Slope Instability

Although most landslides are natural occurrences, some damaging landslides are the result of human carelessness or haphazard construction. When construction is allowed in areas where landslides exist or where landslide susceptibility is high, the potential for substantial property loss and human endangerment increase. The potential public costs for the repair of roads and utilities or disaster relief make it imperative that the city restrict development in geologically hazardous areas.

Most sloping land has some potential for landsliding. Slope stability is affected by several interrelated factors such as steepness of slope, weak unconsolidated soil units or formations with a high clay content, water saturation, vegetation removal, and seismic activity. Usually a combination of several factors will bring the hillside to the verge of failure, and a single factor such as heavy rainfall or an earthquake will be the catalyst responsible for initiating slope failure. The development of sites where these conditions exist may also trigger landslide activity.

As shown on Map 2 (Relative Geologic Stability), a major portion of the City of Saratoga is underlain by a geologic stability zone. This type of geologic unit is moderately stable when dry, but moderately unstable when saturated. Within the city boundaries, landslides are most likely to occur where silt and clay have been eroded along the stream channels traversing the City.

Map 2 also shows areas in Saratoga that contain rock formations conducive to abundant landslides. These areas primarily lie west of Saratoga-Sunnyvale Road, pass through a portion of the Northwestern Hillsides Residential District, and continue past Big Basin Way. The zone is also present within the Sphere of Influence, along the City's northwestern boundary and crossing Bohlman Road. Landslides and unstable slopes are prevalent in this area, and can create hazards within the city limits as the slide debris and rock moves down the incline toward the City's valley floor.

Landslides and slope instability are the major non-seismic geologic hazards in Saratoga. Although most of the hillside areas in the city experience these hazards to some degree, the most severe risks are found in the vicinity of the Congress Springs area and the upper Calabazas Creek watershed. The Congress Springs Study area, investigated for geologic hazards by William Cotton and Associates in 1980, is located in the hillside region west of Saratoga and south of Congress Springs Road. Access to the northern part of the area is provided by Pierce, Toll Gate, and Congress Springs Roads. The southern part is served by the narrow hillside roadways of Bohlman, Belnap, Kittridge, Quickert, On Orbit, and Apollo Roads. One-third of the land in this study area is within the city limits. The present land use consists of hillside residential and watershed areas.

The northern portion of the Congress Springs area is traversed by the potentially active Berrocal fault, which has contributed to deformation and fracture of the bedrock in the vicinity. It also lies within a mile of the San Andreas fault; the proximity of these two fault systems has produced unstable slope conditions. Large landslide deposits blanket the underlying bedrock throughout much of the hillside region, and approximately 50% of the hillside contains landslide debris.

The most geologically unstable area of the city lies in the Congress Springs area. An extensive section of several active landslides is shown on Map 3, Landslide and Flood Areas. The upper portion of the section includes the hilly region south of Congress Springs Road, part of the natural channel of Saratoga Creek, a section of the Congress Springs Road alignment, and a considerable amount of the low foothills located north of the road. Slope movements have been noted in this region for over 50 years. The Congress Springs Road surface has been significantly deformed and elevated about 14 feet since 1931 when the present alignment was constructed. Extensive structural damage has been experienced by all man-made structures within or south of this region.

Key to Map 2

AREAS OF RELATIVELY STABLE GROUND

Sbr - level ground with moderately steep slopes underlain by bedrock within several feet of the ground surface. Soil or alluvial cover may be subject to shallow sliding, soil creep, or settlement.

Sls - gentle to moderately steep slopes underlain by naturally stabilized old landslide debris. Subject to local soil creep and settlement.

Sun - Level ground and gentle slopes underlain by thick unconsolidated granular material. Subject to settlement and soil creep. Liquefaction possible in low areas during strong earthquakes. Stream erosion may trigger shallow landslides along creek banks.

Sff - Large areas of relatively stable artificial fill on flat or gently sloping ground or in canyon bottoms. Subject to localized settlement where placement might not have met engineering specifications.

Sex - Generally highly expansive, clay-rich soils and bedrock. Subject to seasonal shrink-swell, rapid soil creep and settlement. May include areas of non-expansive material and may also occur within other map units.

AREAS OF POTENTIALLY UNSTABLE GROUND

Pmw - Steep to very steep slopes underlain by weathered, fractured bedrock, subject to mass wasting by soil creep, slumping and rockfall activity.

Pfs - Large areas of potentially unstable artificial fill on moderately steep to steep ground. Subject to localized settlement, landsliding, and debris flow activity where placement might not have met engineering standards.

Ps - Gentle to moderately steep slopes underlain by relatively unstable material including landslide debris, colluvium, and weak bedrock. Commonly less than 10 feet thick. Susceptible to shallow landsliding and soil creep activity.

Pd - Moderately steep to very steep slopes underlain by or adjacent to relatively unstable landslide debris, commonly more than 10 feet thick. Susceptible to deep landsliding.

Pdf - Steep to very steep terrain mantled with thick soil, colluvium, and landslide debris susceptible to debris flows. Includes flows and depositional areas on flatter slopes below.

AREAS OF UNSTABLE GROUND

Ms - Moving shallow landslides, commonly less than 10 feet thick.

Md - Moving deep landslides, more than 10 feet thick.

Mrf - Moving deep landslides, more than 100 feet thick, exposed in high, oversteepened slopes, subject to large-scale sloughing, slumping and possibly catastrophic rock falls.

AREAS OF POTENTIAL SURFACE FAULTING

Psf - Zone of potential surface faulting and associated ground displacement within 100 feet of a trace of the Berrocal Fault or within 200 feet of a trace of the Shannon Fault.

Active landsliding can also be traced across Belnap, Bohlman and On Orbit Roads and private driveways at a number of locations within the Congress Springs and the Lower Saratoga Hillside areas. Santa Clara County has surveyed a short section of Bohlman Road below the intersection of On Orbit Drive and found it to be moving at a rate of 2.7 to 3.6 inches per year. This is considered an extremely high risk area for future development, even in those areas which appear to be stable at the present time. The equilibrium of even the most stable ground within this hillside could be destroyed by the advent of road construction, irrigation, alteration of natural drainage, or the introduction of septic tank effluent. Rapid failure of these slopes could cause considerable property damage, personal injury or loss of life.

Other highly unstable geologic units within Saratoga and its Sphere of Influence are those designated on Map 2 according to the key on pages 9-10. These units include all landslides shown on Map 3 which are considered extremely unstable, particularly when saturated. The upper Calabazas Creek watershed is located in this hillside region west of Saratoga, and extends into the unincorporated area. Primary access to the area is provided by Congress Springs Road to the south, and Pierce and Mt. Eden Roads to the northwest. Although the majority of the land is underlain by relatively stable ground, the stability of large portions of the hillside is undermined by landslide deposits and unstable soils.

The most extensive occurrence of landslide deposits is in the central portion of the watershed located north and south of the Mt. Eden Road-Pierce Road intersection. Forty-percent of the total land area in the Mt. Eden-Pierce Road vicinity is covered by landslide deposits. Isolated landslides are common in this area, as are large landslide complexes which cover entire hillslopes. Examples of these large slide deposits are those on Pike Road and on the Garrod Farms property. Within the same general area, the Quarry Road slide adjacent to the Calabazas Creek has moved part of the roadbed into the creek.

To prevent potential geologic hazards from occurring in areas of slope instability and unstable soils, Saratoga requires that detailed geotechnical investigations be made for all land use proposals in the Northwestern Hillsides Residential District (NHR), the northwestern hillside area of Saratoga and adjacent Santa Clara County lands (refer to map in Appendix B), and in the Hillside Conservation Residential District (HC-RD) in accordance with Section 15-13.050 and 15-14.050 of the City Code.

Saratoga's Sphere of Influence is within Santa Clara County's jurisdiction and development review area. Saratoga's Sphere of Influence is defined as that area outside the City's incorporated boundary, but designated by the Santa Clara County Local Agency Formation Commission as the unincorporated area most likely to be influenced and annexed by the City at some future date (refer to map in Appendix C). The County has adopted a Geologic Hazard zoning district where development is restricted due to large area-wide landslides. The County has established specific

guidelines for the review of development proposals in this district to aid in identifing areas of land instability, and to require that appropriate conditions be met by developers. This zoning designation has been applied to the major slide area at Congress Springs Road, shown on Map 3.

Soil Creep and Expansive Soils

Soil creep and expansive soils are most prevalent in the western hillside regions of the city. Soil creep is the slow, downslope movement of near-surface materials. The rate of soil creep is a function of slope angle, soil thickness and texture. It can be regarded as a continuous process, and may cause retaining walls, foundations and paved roads to fail over a period of time unaccompanied by any obvious signs of slope failure. Soil creep should not have a prohibitive effect on land use, but should alert the City to require appropriate geotechnical investigations to evaluate conditions and to impose engineering solutions to mitigate problems.

Expansive soils contain high proportions of clay and alternately absorb and release large amounts of water during wet and dry cycles. When structures are built on expansive soil, foundations may rise each wet season, resulting in cracked foundations, distorted frameworks, and warped windows and doors. These adverse effects can be eliminated by recognition of the condition, proper site development and foundation design. All applications for site development and building permits should be accompanied by soil reports in those areas where expansive soils exist.

SEISMIC HAZARDS

The identification of earthquake hazards in Saratoga requires a description of potentially active faults within the area and also a description of the secondary effects of earthquake activity, caused by the sudden movement of blocks of the earth's crust along a fault line. These secondary effects constitute potential hazards to the populated area and consist of: 1) ground shaking, 2) surface rupture or ground displacement along fault traces, 3) ground failure, and 4) seismically induced water inundation. Hazards increase in areas where seismic activity is combined with the potential for flooding, poor soil drainage, unstable surficial soil and steep slope, fire hazard, and deteriorated structures, and can result in extensive property damage, personal injury or death.

Identification of Active and Potentially Active Faults

The San Andreas Fault is the only known "active" fault in the vicinity of Saratoga. For planning purposes, an "active" fault is one which has experienced displacement within the last 11,000 years, and can be expected to move again within the next 100 years. The proximity of the fault, which traverses the City's Sphere of Influence along the ridge of the Santa Cruz Mountains, subjects the hillside region to the probability of severe lateral displacement and ground shaking should an earthquake occur.

There are two "potentially active" faults within the city limits and lying on the alluvial plain. A "potentially active" fault is one that has moved within the last 2 million to 11,000 years, and because it is judged to be capable of ground rupture or shaking, poses an unacceptable risk to a proposed structure. While the San Andreas Fault has a significant history of seismic activity, the Berrocal and Shannon Faults are considered "potentially active" because there is no reliable evidence of recent displacement along either fault. The Berrocal Fault belongs to the Sargent Fault zone, a complex system of interconnecting faults extending northwest between the San Andreas and the Calaveras Faults. The fault trace crosses Congress Springs Road and continues into the southeastern portion of the Sphere of Influence. The Shannon Fault, part of the Monte Vista Fault system, closely parallels the proposed State Highway 85 corridor from Regnart Creek (Cupertino) in the north, crossing Saratoga Avenue, and continuing to the Almaden Expressway in the southeast portion of San Jose. Although there is a remote chance that ground rupture could occur on either of these fault traces in the future, it is more likely to occur on the San Andreas Fault.

In compliance with State legislation (Alquist-Priolo Geologic Hazard Zones Act), the California Division of Mines and Geology has established Special Studies Zones along faults considered to be active or potentially active. When development for human occupancy is proposed within these zones, special studies

relating to seismic hazards are required and must be submitted to the City or County Geologist for review. At the present time, the San Andreas Fault is the only area within the City and its Sphere of Influence that the State has designated as a Special Studies Zone.

Ground Movement Potential Maps and Geologic Hazards Analyses of the Northwestern Hillsides region in Saratoga have been prepared by William Cotton and Associates. Geologic and Ground Movement Potential Maps of the Lower Saratoga Hillside Area , supplemented by a Geologic Hazards Analysis, have been prepared for the City by Terratech. These documents indicate the general location of areas of potential hazards and, for the purposes of the Safety Element, have been compiled into one map, Map 4: General Plan Geologic Hazard Overlay Map. This map also includes 100-year flood areas, potentially active faults, and hazardous fire areas. The information in both Maps 2 and 4 generally informs the public about potential seismic or ground movement hazards, but is not intended to replace the necessary geotechnical studies for individual sites, particularly in the Northwestern Hillside Area, prior to development.

Ground Shaking

The most widespread effect of an earthquake is ground shaking, or the movement of the earth's surface in response to seismic activity; this often is the greatest cause of physical damage. Structures of all types, including buildings and utility facilities, may suffer severe damage or collapse if not properly designed to withstand the intensity of the shaking.

The major threat to persons in both the City of Saratoga and its Sphere of Influence is structural failure of buildings or failure of slopes due to shaking. Because of the steep slopes and network of fault lines in the hillside areas closest to the San Andreas Rift Zone, it is essential to enforce strict earthquake construction and soil engineering standards in order to select the most stable building sites, and to compensate for soil instabilities through the use of approved engineering and construction techniques.

According to the California State Division of Mines and Geology, over 100 small to moderate tremors were felt in the Santa Cruz Mountains area over the past 60 years, with 14 events having epicenters located within Saratoga's Sphere of Influence. Hence, there is a high probability that a strong earthquake will occur in the near future in the vicinity of the City.

Surface Rupture

Surface rupture, or a break in the ground's surface and the associated displacement caused by the movement of a fault, is directly correlated to earthquake magnitude; earthquakes having a magnitude of 5.5 or greater are required for such events to occur.

During the 1906 San Francisco earthquake (magnitude 8.3), ground rupture occurred along 270 miles of the San Andreas Fault, with a 20-foot offset occurring near the epicenter in Marin County.

It is generally not economically feasible to design and build foundations of structures across faults, especially those subject to ground displacement or surface rupture. In addition to regional investigations necessary to the basic understanding of faults and their histories, detailed site investigations are needed prior to the approval of construction in any suspected or potentially active fault zone.

Utilities, roads, and other linear features are particularly vulnerable to damage resulting from ground displacement. Little rural residential development has taken place within the San Andreas Fault zone in Saratoga's Sphere of Influence, so the present risk of structural damage due to fault rupture is minimal. However, utility facilities such as gas and electric lines traverse the fault zone and may be subject to damage from surface rupture.

Ground Failure

Ground failure is a secondary effect of earthquake shaking that can be potentially dangerous and damaging. It includes landslides, rockfalls, subsidence, liquefaction, and ground lurching in areas not actually ruptured by a fault. All of these activities involve the displacement of ground surface due to loss of strength or failure of the underlying materials during earthquake shaking. Existing moisture conditions and groundwater levels play an important role in the assessment of the potential for ground failure, as do soil type and slope instability.

The San Andreas Rift Zone and the Northwestern Foothills (Terrain Unit II) are estimated to have a high probability of landslide potential should an earthquake occur, while the probability of subsidence and ground lurching in these areas is low.

The Bohlman area (Terrain Unit III) is known for unstable slopes and is considered to have a high potential for seismically induced landslides. The Skyline area (Terrain Unit IV) has a medium or moderate probability of landslide occurrence, but this region is sparsely populated.

The Valley floor (Terrain Unit V), the most populated area of Saratoga, is relatively flat but is traversed by several creeks. While this area may not experience landslides or ground lurching should an earthquake occur, there is a moderate probability that subsidence and/or liquefaction would take place due to the loosely compacted alluvium soil.

Seismically Induced Flooding and Dam Inundation

Should a dam fail during an earthquake, the released water could cause flooding downstream. The resulting damage is dependent

on the rate of water released and the volume of water in the reservoir. Failure of a dam can either be caused by ground displacement along a fault trace, ground shaking, or overtopping of the dam by a large landslide splash wave.

The Lake Ranch reservoir in Saratoga's Sphere of Influence is the most likely reservoir to be affected by seismic activity. Operated by the San Jose Water Company, the reservoir is located in a saddle-shaped depression near the southern portion of Sanborn Road, and was created by the construction of a small earthen dam at each end. Both dams are traversed by the San Andreas Fault, and both withstood the 1906 earthquake. However, it is estimated that if an earthquake occurs which either ruptures the dams or creates reservoir seiches (seismic waves), the volume of water (105 million gallons when full) released would be comparable to the flooding hazard from a 100 year flood. The southeasterly flow of the reservoir storage would impact areas outside of the City's Sphere of Influence near the Santa Cruz County line, while the northeasterly flow would flood areas along Quito Creek.

Other flooding hazards resulting from the secondary effects of seismic activity could occur if landslides are activated and advance into creekbeds. On Big Basin Way, near the San Jose Water Company's Saratoga filter plant, a slide could conceivably block both the road and Saratoga Creek during an earthquake. This area has experienced movement in the past, and has required periodic maintenance and the construction of expensive drainage facilities at the site.

Structural Hazards Related to Seismic Activity

The majority of homes in the City of Saratoga are single-story, post-1950 wood frame structures which tend to fare well during earthquakes because of the flexibility of building material. However, recently, the number of two-story homes being built exceeds that of single-story homes, particularly in hillside areas. The low density of development in recent housing tracts is also an advantage during an earthquake because it allows clearance around buildings for sway and falling debris.

Fortunately, few elevated structures in excess of two or three stories in height have been built in Saratoga or its Sphere of Influence; the few that do exist were constructed according to modern codes which include seismic safety requirements. While it is impossible to guarantee the safety of any structure, a clearly defined and conscientiously enforced program of structural reinforcement will greatly reduce injury and loss of life. The establishment of appropriate setbacks to prohibit development near or on fault lines is another precaution which can be used to minimize structural damage.

Many commonly used building components, such as nonreinforced stone or brick chimneys and nonreinforced masonry, are particularly susceptible to ground shaking. Among newly constructed

buildings, particularly those for commercial use, small steel frame buildings are generally considered the safest, while nonreinforced masonry and tilt-up structures are regarded as posing a greater risk. Because Saratoga is predominantly a residential community, it does not have a vast number of nonreinforced masonry or tilt-up structures. At the present time, there are no tilt-up structures in the City, but it is estimated that 50% of the structures in the Village area along Big Basin Way are of nonreinforced masonry. This type of construction should be avoided since it is estimated that the damage to this type of structure is two or three times greater than that which would occur with a wood-frame building. In areas with intense ground shaking during the San Fernando earthquake of 1971, there was a 20% loss rate to tilt-up structures, with the roof to wall connections showing particular stress.

State law requires municipalities to inventory potentially hazardous masonry buildings and to file the inventory with the Seismic Safety Commission. However, the State has not allocated funding to assist local agencies in implementing this program.

Other Potential Hazards Related to Seismic Activity

Public and quasi-public facilities such as utility systems may be at risk from the secondary effects of seismic activity. In the aftermath of a major earthquake, facilities of particular importance such as water tanks, pipelines including gas, water and sewer, electrical and communications systems, and roads, bridges and freeways are regarded as the "lifelines" of the community for the provision of emergency services. Many of these utilities unavoidably cross hazardous areas, and could be disrupted and seriously impaired in the event of an earthquake. Water distribution, sewage disposal, and gas systems are particularly vulnerable. Disruption of these systems after an earthquake will be dependent not only upon the location and magnitude of the earthquake and specific site conditions, but also on the condition of the lines, pumps, and plant facilities. Water pumps require electricity units to operate, and hence the system could fail at many points. Gas distribution lines crossing seismically hazardous areas or large gasoline storage tanks located in areas of poor soil conditions could rupture, and the gas be ignited. The areas of the City and its Sphere of Influence where utilities are most likely to be disturbed are the San Andreas Rift Zone and the Bohlman Road area.

Several safety measures have been used by the City to reduce the risk of utility system breakdown during an earthquake: stand-by power sources are provided to all computerized controls and monitors; loss of power will automatically shut off water; and sewage lines have been embedded several feet lower than the water lines. Water comes to Saratoga from four different locations operated by SJWC: Saratoga Creek, Los Gatos Creek impounding dams, 125 wells in the North Central District, and from the SCVWD Rinconada Treatment Plant. While it is unlikely that all sources would be shut off simultaneously, a limited reserve of replacement equipment might delay the restoration of service. After an

earthquake or disaster, SJWC will implement its own emergency operating plan to serve Saratoga.

The problem of water supply in the hillsides and the Sphere of Influence could become acute during an earthquake. In the summer, when streams are dry, dependence on private sources might be inadequate for emergency needs. There are several small reservoirs, two 10,000 gallon redwood storage tanks often used by the Forestry Division, occasional wells, and the Lake Ranch Reservoir which, under properly organized distribution, could provide for emergency needs.

Damage to roadways, freeways and bridges can be expected during a major earthquake. However, recently constructed reinforced concrete bridges and overpasses are considered to be more resilient to earthquake movement than older bridges and overpasses. Several bridges in the City would be subject to failure during seismic activity because they were not constructed according to current engineering standards. These facilities are also in areas of high groundwater levels and unstable creekbeds: Springer Avenue at Big Basin Way, Fourth Street near Big Basin Way, Sarahills Road near Pierce Road, and Chalet Clothilde Drive near Pierce Road. The only airport in the Bay Area expected to be operational following an earthquake is San Jose International Airport. All other airports in the bay region are built on bay mud which tends to liquefy during seismic activity.

One of the greatest problems following an earthquake is the provision of emergency care for the injured at major hospitals and health care facilities. Some hospitals may not be operational after a major earthquake, especially if they are located near the San Andreas Fault. If a major earthquake causes the City to become isolated from the rest of the Santa Clara Valley, Los Gatos-Saratoga Hospital on Pollard Road in Los Gatos would be the most accessible health care facility for the residents of Saratoga. Good Samaritan Hospital, while in close proximity to the City, could be inaccessible if freeways and overpasses are not usable. The nine schools in the City would be used as Emergency Operations Centers for public information, and have been designed according to the strict State seismic safety requirements of the Field Act (1933). Blue Hills Elementary School is located near the Shannon Fault; the structural soundness of this structure should be evaluated, and if any hazards which cannot be mitigated exist, abandonment of the building should be considered. It is recommended that future involuntary occupancy type structures in Saratoga, such as schools and hospitals, not be located in areas of poor land stability, and should be designed to mitigate any seismic hazards associated with their sites.

FLOOD HAZARDS

Historically, the occurrence of flooding has been a benefit to agricultural soil, wildlife, and the general ecological balance of a community. Flooding becomes a natural hazard when the flow of water threatens life and damages personal property. Damages from flooding increase in proportion to the growth of urban development and as subdivisions locate on potential flood sites.

Floods are primarily caused by excessive surface runoff resulting from intense or heavy rainfall, or from the failure of flood control or water supply structures such as levees or reservoirs. When prolonged rainfall exceeds the absorption rate of the soil or the water storage capacity of the watershed, the excess must flow downstream. Although it is impossible to prevent excessive rainfall that causes major floods, it is possible to develop methods and policies for the management of areas subject to flooding, and for the protection of life and property. Through the use of hydrologic data in conjunction with regulatory and flood proofing measures, proper land use planning can be effective in the control of flooding and its possible adverse affects.

Historical Data on Flooding in Area

All surface water originating in or passing through Saratoga ultimately discharges into San Francisco Bay. Runoff is collected in the City's underground storm drainage system, which discharges into the creeks throughout the City. Three major drainage basins lie within the City, and all drain from south to north. From east to west, these basins are the San Tomas Aquino, Saratoga, and Calabazas Creeks. Wildcat, Vasona, and Sobey Creeks are tributaries within the San Tomas Creek drainage system, while Prospect and Rodeo Creeks are tributaries of Calabazas Creek. San Tomas Aquino and Calabazas Creeks discharge into the Guadalupe Slough near the Bay, with Saratoga Creek joining San Tomas Aquino north of the City.

Information on flooding of the creeks during the years 1889 through 1973 reveals that the Saratoga area experienced 14 floods of varying severity. Flooding in the early years was often viewed as an asset rather than a liability, since the need for water to irrigate agricultural crops outweighed the damage done by floodwater. As development increased over the years, damage became a more important consideration as population growth and the completion of water retention facilities in the area combined to alter the pattern of potential flooding.

The severity of floods in relation to urban development varies from year to year. The most serious floods in Saratoga occurred in 1914, 1955, 1958, 1963, and the winter of 1982-83. The City was hit most severely during the floods of 1958. The Santa Clara Valley Water District has made progress in improving the channels since that date whenever funds were available; as a result, flood damage has been reduced over the years. During an average

year, residents of the area are subject to minor flooding, but most potential hazards are now being corrected through conditions of approval for tentative subdivision maps.

The most recent major flooding in Saratoga occurred during the heavy rains of the winter of 1982-83. Much of the property damage resulting from the high intensity and long duration of the rains during that winter was due to slope failure, triggered by over-saturation of the ground and/or by rising groundwater level. Although the resulting landslides were confined primarily to private property, some public roads and utilities in the upper Calabazas Creek watershed and the Congress Springs study area also experienced ground failure. On Michaels Drive, where several slides occurred, a water line belonging to San Jose Water Works was broken. At Kittridge and Bohlman Roads, a landslide extended into the road alignment, disrupting gas and water lines. Curbs and concrete gutters buckled on Sarahills Drive as slope movement caused compression cracking of the road surface.

Identification of Areas Subject to Flooding

Several creek areas in Saratoga have been identified as specific flood hazard areas (Map 3). Saratoga Creek has the most extensive floodplain in width and length. It begins above Prospect Avenue and follows Saratoga Avenue where it joins Big Basin Way. The widest portion of the floodplain is south of the Southern Pacific Railroad tracks. The flood hazard in this area is expected to diminish when drainage facilities are constructed in conjunction with the development of the State Highway 85 transportation corridor.

As tributaries of the San Tomas Aquino Creek basin, Wildcat, Vasona, and San Tomas Aquino Creeks also are subject to the 100-year flood hazard. Recent improvements to these creek channels have greatly reduced the potential for flood damage in adjacent areas. Further improvements will also be made during the construction of the transportation corridor.

Calabazas Creek has an extremely wide 100-year floodplain from Prospect Road extending almost to Wardell Road, between Saratoga-Sunnyvale Road and Arroyo de Arguello, where the watershed branches out in a westward direction. Although much of the terrain lying within the upper Calabazas Creek watershed is characterized by steep hillsides, heavy rainfall during past years has saturated unstable slopes and caused the groundwater level to rise, triggering landslides of mud and debris into the creek channels. Since the flooding in 1983, extensive cleaning of the Calabazas Creek basin near Comer Drive has been performed annually to dislodge accumulated debris which impedes the flow of the drainage basin.

There are no Federal flood control facilities on stream channels in the City of Saratoga. However, private parties have contributed toward the development of drainage facilities which have reduced flood damages over the years. These improvements have

consisted of bridge and culvert construction, but, in many cases, have proven inadequate in containing the 100-year flood flow.

The future risk of hazard from flooding is most likely to occur in areas which have been subject to flooding during the past 100 years on record. Residential development should not be permitted in designated floodplains unless it has been previously approved by the Santa Clara Valley Water District (SCVWD), or only if the structures are adequately protected by raising the first habitable floor at least one foot above the base floodline level.

The principal land use in the floodplains within the City is low to medium density residential, with limited areas designated as agricultural, open space, or commercial use. Uses which do not subject human life to danger, such as orchards or wildlife preserves, can be permitted in the floodplains. Existing development in the floodplain can be further protected through the use of levees or engineering methods which increase stream capacity.

Flood Controls and Land Development Review

The City of Saratoga is a participant in the National Flood Insurance Program operated by the Federal Insurance Administration of the Department of Housing and Urban Development (HUD). The purpose of the program is to provide insurance coverage to property owners against losses due to flooding, and to require that local governments take all actions possible to control development in a manner which minimizes the risk of flood damage. Under the program, the City must adopt land use and development controls to assure that new structures are reasonably safe from flooding. Within the identified flood hazard area which the federal program designates, these controls require that new structures use flood-resistant materials, be adequately anchored, have first floors elevated above the level of the 1% base floodplain, and be placed outside of designated floodways. The 1% base floodplain is that area where there is a one percent chance of a flood occurring within any given year. This area is often called the 100-year flood zone, which signifies the reoccurrence interval or long-term average period between floods of a specific magnitude. The City must also apply floodplain zoning to designated floodways and develop a Floodplain Management Ordinance under this program.

Without flood protection, many types of land uses, particularly housing, are not appropriate within floodable areas. However, flood protection facilities are not economically justifiable, even though an area is a known floodplain, unless they service valuable land uses such as housing. Historically, land development has come first and flood protection has been provided after flood damage to property has occurred. The use of flood hazard information in the advance planning of land uses is essential in order to provide the framework for zoning administration and the land development review process.

Saratoga has an extensive review procedure in conjunction with the Santa Clara Valley Water District which addresses flooding potential and the impact on development. The Flood Plain Management Act (Cobey-Alquist Act 1969) introduced the concept of reserving from future development areas along stream channels for flood prevention projects. In Saratoga, land development proposals adjacent to a floodplain or creek must be reviewed by SCVWD, which makes recommendations for possible flood prevention measures. SCVWD usually requires the dedication of an easement along natural watercourses or channels under its jurisdiction for the purpose of maintaining the channel or for the future construction of channel improvements. The Water District may also recommend other measures for the mitigation of flood hazards, such as grading of the site and elevation of the structure above the anticipated flooding level. A drainage plan is required by the City at the time of preliminary map submittal to ensure that runoff is drained away from structures. The City engineering department has the responsibility for Saratoga's drainage facilities, and operates in conjunction with the Water District when areas of responsibility overlap.

Flood Control and Emergency Services

Since flooding causes both damage to property and a severe health hazard to those in the community, it is important to have plans for emergency services in the event of flooding. These preventative measures also contribute toward the eligibility to receive Federal funds for future flood control projects.

A community's eligibility for Federal funds requires a statewide expenditure of $5 million on disaster prevention during the preceding 12 months. SCVWD takes and encourages all other utilities and service providers to take all preventative actions necessary to protect the public safety during periods of emergency, and has created the position of Public Information Officer to prepare news releases to inform the news media and Emergency Center Staff of any pending danger and the progress of emergency actions. The SCVWD plan includes a hierarchy of responsible officials and contacts in the event of an emergency. San Jose Water Company, which services the City's water system, has a detailed plan for emergency operations. Their emergency committee will educate the public on how to respond in the event of a disaster.

The Santa Clara Valley Water District has established an emergency operations center at the district office in San Jose to gather and disseminate information, to evaluate potential and existing flood and earthquake conditions, and to advise local communities of corrective measures as necessary. The SCVWD coordinates actions when dual responsibility is involved, and operates as a liaison to County, State and Federal offices of emergency functions. SCVWD is "on alert" from October 1st to May 1st in order to monitor flood and emergency conditions. During flood emergencies, 24 operational bases will be established throughout the County for emergency response. Saratoga's contact base is at the Rinconada Treatment Plant near More Avenue in Los Gatos.

Isolation of an area by flooded roads can prevent evacuation and access by medical, fire, and police personnel. During periods of heavy rainfall, many bridges and roads which cross stream channels may be inundated by the swiftly moving water. Bridges over the lower portion of Saratoga Creek near the Village are particularly vulnerable to flood damage, making major public roads inaccessible. Residents must then use private, substandard roads for access; should they become completely isolated from the City, only the Division of Forestry would be able to offer air access. The response time for the provision of this service is greater in the winter months because the division's hillside substation near Alma Avenue in Los Gatos is unmanned during that season. Bohlman Road and On Orbit Drive are predicted to be isolated in the event of heavy rainfall, as the high groundwater table rises and the geologic instability of the surrounding slopes triggers landslides. During periods of high intensity rainfall, City maintenance crews patrol the entire City with attention being paid to those areas having a history of flooding. The purpose of this type of patrol is to help prevent damage to private property during severe storms.

FIRE HAZARDS

Because most fires are started by people, either intentionally or through carelessness, the places of greatest concern for fire prevention are where people live, recreate, drive or work. Once started, a fire can quickly blaze out of control when weather and physical site conditions are amenable. In addition to the direct hazards to people and property, indirect damages and economic losses which fire may cause such as erosion and siltation of dams and flood control channels, increased flood hazard, damage to watersheds, the potential for mud slides, and losses to scenic and recreational values may also occur.

Development in areas of fire hazard should be guided by prevention requirements such as fire resistant building construction and materials, adequate space between structures, available water supply, fire resistant plant materials, quality of year-round fire-fighting service, available evacuation routes, access routes level enough for fire equipment use, and firebreaks and their maintenance in brush areas.

Access is a key component of fire hazard prevention, since fire fighting equipment must be able to reach the fire and people living in or visiting the areas subject to the hazard must be able to escape in the event of a fire. Private roads, particularly in the hillside areas, are less likely to meet access and maintenance standards than public roads. The most effective method for avoiding fire risk in hazardous areas is the regulation of housing development and the provision of alternate access routes for settled deadend roads. Hillside roads in the County's jurisdictional area, such as Redhill Road and Bohlman Road, clearly fail to meet City road construction standards and do not provide any alternative means of access.

Although fire protection services in the City and the Sphere of Influence are considered adequate for most emergencies, they may prove inadequate in the event of an earthquake. Fires associated with an earthquake are often scattered and spread rapidly due to an impaired water system. In such cases, Saratoga's current level of fire services would be inadequate and water unavailable if reservoirs are ruptured or streams obstructed. During minor emergencies, mutual aid agreements might provide assistance from adjacent communities, but major emergencies, such as large scale fires, would require additional assistance and resources from the County and State.

Fire Protection in Saratoga

The City of Saratoga is served by the Saratoga Fire District and the Central Fire District of Santa Clara County, each serving approximately 50% of the City's jurisdictional area. The Central Fire Protection District was established in 1947 by Santa

Clara County, and is managed by the County Board of Supervisors. The Saratoga Fire District was originally run by a group of citizen volunteers which organized in 1924; it was reorganized in 1961 as a Fire District under the State law with three elected commissioners. While Saratoga has never been completely devastated by a fire, several spectacular blazes occurred during its early history before the turn of the century, such as the fire at Maclay's tannery and grist mill, the pasteboard mill fire, and also the fire at the Saratoga paper mill. The Congress Springs Hotel fire, which completely demolished the structure, occurred in 1906. Since the 1920's, the increase in the level of firefighting skill and the greatly improved firefighting equipment have prevented many fires in the City from becoming disasters.

The Saratoga Fire District has one station located at the corner of Saratoga Avenue and Saratoga-Sunnyvale Road. The Central Fire District has two Saratoga stations, one located on Cox Avenue and the other on Saratoga-Los Gatos Road, which also serves portions of Los Gatos. All area fire departments cooperate in mutual aid agreements which loosen the strict adherence to district boundaries when adjacent communities are in need.

San Jose Water Company is a private water supply company which services the City of Saratoga and much of Santa Clara County. The City's water supply is considered adequate for fire-fighting, originating from four sources: 125 wells in the north Central district, Saratoga Creek, Los Gatos Creek Impounding Dam, and purchased treated water from the Santa Clara Valley Water District Rinconada Treatment Plant. The Subdivision Ordinance requires a peakload water supply of 1,000 gallons of water per minute for two hours for all housing development. San Jose Water Company is limited in the areas it can serve since higher site elevations decrease the 35 pound minimum pressure which must be maintained in order to provide 1,000 gallons per minute. This factor has caused a severe problem in providing adequate fire protection in the Northwestern Hillsides Residential District, where several of the existing homes do not meet the City requirement.

The City adopted a map in 1981 designating certain areas of the City as hazardous fire areas, which are defined as those areas densely covered with grass, grain, brush or forest and so situated or inaccessible that control of fire originating on the land would present an abnormally difficult task. The hazardous fire areas of the City are shown on Map 5: Areas of Extreme Fire Hazard. This classification encompasses the Northwestern Hillsides area of the City and extends to the Lower Hillsides in the southwestern portion of the City.

Special building regulations have been established for the hazardous fire areas, including the requirement for fire retardant roofs and the installation of an electronic fire detection system (Early Warning Fire Alarm System) in all new homes or existing homes expanded by more than fifty percent. The Early Warning Fire Alarm System consists of heat and smoke detectors placed throughout the structure which, when activated, will transmit a signal directly to

a receiver panel in the Saratoga Fire District station. The fire district will then receive the earliest possible warning of fires, decreasing response time to remote areas and thus reducing the possibility of death, injury and property damage.

Saratoga has adopted the 1985 Editions of the Uniform Building Code and the Uniform Fire Code, with modifications recommended by the Central Fire District and the Saratoga Fire District. These modifications reflect local conditions such as the existence of hazardous fire areas, larger homes and garage sizes, and restricted access and traffic circulation in the hillside areas having steep topography and heavy combustible vegetation. One of the requirements implemented with the adoption of the 1985 Uniform Building Code was for the installation of an automatic sprinkler system in any new garage or carport having a capacity to accommodate three or more automobiles.

The requirement for installation of the Early Warning Fire Alarm System has been expanded beyond the hazardous fire areas to include the following types of structures, wherever located within the City:

1) all new residences over 5,000 square feet,
2) existing residences which are being expanded to increase the total square footage to greater than 5,000 square feet,
3) all new multi-family dwellings, hotels, motels, institutional facilities, nursing homes and other structures containing multiple sleeping units, or any such existing structures which are expanded by 50% or more in gross floor area, and
4) new or expanded commercial structures, when required by the Fire Chief.

Assessment of Fire Risk in Wildland Areas

The Northwestern Hillsides Residential District (NHR) and the hillsides in the lower portion of the City (HC-RD) south of Big Basin Way and Saratoga-Los Gatos Road, including small portions of the adjacent unincorporated area, are both classified by the State Public Resources Code and City ordinance as "hazardous fire areas." Significant slopes, fire-loading vegetation, weather, or any combination of these conditions creates the potential for the loss of life and property due to fire. Because of this potential, special fire protection measures and planning are necessary before development occurs.

The Northwestern Hillsides Residential District is characterized by native brush, grasslands and trees which are subject to wildfire, an uncontrollable brush fire fueled by this vegetation. While the low density of housing in the hillside area minimizes the potential danger to humans and structures, there is a danger that fire in one structure will start a wildfire which could consume an entire hillside. Special efforts have been made by the City to require anti-fire buffer areas and sufficient clearance

around each house by landscaping with non-hazardous, drought resistant vegetation. The minimum setbacks in this area are 30 feet in the front yard, 20 feet in the side yards and a minimum of 20 feet in the rear.

Access and parking for emergency vehicles and delays in response time are the major public safety concerns in this area. Public street right-of-ways in hillside areas are required to have a pavement width of 26 feet, while the minimum width for a private access drive is 18 feet. Emergency vehicles such as fire trucks require a radius of a minimum of 32 feet on a cul-de-sac turnaround.

The fire hazard in Saratoga's Sphere of Influence outside the City limits is considerably higher than in the City and its incorporated hillsides. Forest Service ranger units, located at Saratoga Summit and Stevens Creek Reservoir, are equipped to provide coverage for wildland fires only and not structure fires, during the summer months. The major problems contributing to adverse fire fighting conditions in the Sphere are areas of steep slope, lack of adequate water supply, intense vegetative cover, and spectators who block access routes. The Sphere is covered during the winter months by the two fire districts in Saratoga, but structure fire fighting equipment in this area is subject to local emergency conditions and may not be available at all.

Assessment of Fire Risk in Urban Areas

The fire hazards in the flat urbanized areas of Saratoga are relatively low. Although these areas are higher in density than the hillside areas, excessive combustible natural vegetation is not present. The City's Weed Abatement ordinance and unlimited trash pickup service have been effective in controlling a large portion of the combustible vegetation and trash in the City's urban area. Response time of fire protection services is only a few minutes to any of the City's densely populated neighborhoods, and the peakload water supply requirement of 1,000 gallons of water per minute for two hours is more than adequate for these areas.

Summer fires pose the greatest threat to residential areas in the City, particularly during periods of high temperatures and extremely dry vegetation. Tract homes with wood shake shingles are especially susceptible to the rapid spread of any fire which may start during seasonal dry spells, and are a major concern to the fire districts. The future adoption of standards for fire retardant roof materials and residential sprinklers for all areas of the City should be considered.

A substantial portion of the new single-family dwellings being constructed in the City are much larger than the older existing homes; they are typically in excess of five thousand square feet which includes an attached three-car garage. Because of the size of these dwellings, a fire may be more difficult to extinguish and, therefore, potentially cause more damage than would normally occur. This is one of several reasons which lead to the requirement that the Early Warning Fire Alarm System be installed in all new or

expanded single-family dwellings with a floor area exceeding five thousand square feet, and a domestic sprinkler system must be installed in all three car garages.

Hazardous Materials Storage and Disposal

When compared to adjacent communities, Saratoga does not have a significant problem with hazardous materials storage and handling. No major chemical handlers are located in the City since such operations are severely limited by existing regulations. The storage, use and disposal of hazardous materials is limited to the six gas stations located in the City, and typically consists of anti-freeze, brake fluid, motor oil and gasoline.

Generally, when hazardous materials are present in Saratoga they are being transported through the City rather than to a location within the City limits. The main transportation routes for these materials are Saratoga-Sunnyvale Road and Highway 9; any spill which may occur along this corridor would be responded to by the local fire districts with the clean-up operation being the responsibility of the State Department of Transportation.

A major concern to the City when a hazardous chemical spill occurs is the possibility of surface and groundwater contamination. Floodplains and creeks lie in close proximity to the primary transportation routes and can become contaminated quickly between the time a spill occurs and the clean-up process begins. A spill occurred in 1985 at Big Basin Way and Saratoga-Sunnyvale Road, with several thousand gallons of gasoline leaking into Saratoga Creek from a ruptured tank on a gasoline tanker truck. Several businesses and homeowners were forced to evacuate, and access roads were closed for several hours.

Saratoga enacted a Hazardous Materials Storage Ordinance in 1983 (Chapter 8 of the City Code) to protect "health, life, resources, and property through prevention and control of unauthorized discharges of hazardous materials." The ordinance includes regulations governing administration and enforcement of the code which is performed by the County, the list of specific materials covered, containment standards, and preparation of hazardous materials management plans. Any person, firm, or corporation which stores any hazardous material for which a permit is required must file a Hazardous Materials Management Plan (HMMP) for County approval and public record, demonstrating safe storage and handling of hazardous materials. The HMMP must include general information about the facility, an emergency response contact, a facility storage map, a hazardous materials inventory statement, a monitoring program, recordkeeping forms to be used as a log for routine inspections, and a description of emergency equipment available on-site. Due to the complexity of the new State laws concerning the storage and transportation of hazardous materials, the Central Fire District has hired a full-time chemist, rather than training a fire fighter, to monitor and enforce the new laws.

EMERGENCY PREPAREDNESS AND DISASTER PLANNING

Effective safety planning involves both the development of regulations to prevent and/or mitigate hazards and the preparation of plans to deal with emergencies should they arise. While prevention is the most effective and cautious method of protecting the public and property from imminent danger, the City must be prepared if an unpredictable disaster should strike. It is the responsibility of each city to prepare a local emergency preparedness plan to be reviewed and updated every four years and approved by the State Office of Emergency Services. Updating the plan on schedule maintains the city's eligibility for Federal Emergency Management Agency (FEMA) funded programs.

The City Code asserts the obligation of the City to protect the life and property of Saratoga residents, and supports the policy of mutual aid and coordination with the County emergency operational area. Expenditures are authorized for the protection and benefit of residents and their property. The City has defined an emergency as:

> The actual or threatened existence of conditions of disaster or of extreme peril to the safety of persons and property within the City caused by such conditions as air pollution, fire, flood, storm, epidemic, riot, earthquake, or other conditions resulting from war or imminent threat of war, which conditions are or are likely to be beyond the control of services, personnel, equipment, and facilities of the City, requiring the combined forces of other political subdivisions to combat.

Through the California Emergency Services Act of 1970, the California Office of Emergency Service provides the basis for local emergency preparedness. The Office of Emergency Services is responsible for preparing the California State Emergency Plan and for coordinating and supporting emergency services conducted by local governments. The responsibility for immediate response to an emergency, such as fires, landslides, earthquakes or riots, rests with local government agencies and segments of the private sector, with support services provided by other jurisdictions and/or State and Federal agencies. In accordance with their normal operating procedures, the initial response to an emergency is to be made by the City's Fire, Law Enforcement, Medical or Maintenance (Public Works) districts or departments .

Emergency Plan Purpose and Organization

The purpose of the Saratoga's Emergency Plan is to provide for effective emergency management within the City, using existing organizations and resources to the maximum extent possible. The objectives of the plan are:

1) To minimize the effects of emergency or disaster occurring as a result of any hazard, natural or manmade,

2) To enhance the response to emergencies in a timely, coordinated manner,

3) To assist recovery from a disaster rapidly and at lowest possible cost to residents,

4) To facilitate preparedness for dealing with the mitigation, response and recovery actions inherent in the objectives above.

The City's Emergency Plan details the assignment of authority and procedures to be followed during emergencies. The present plan was adopted in January 1986, and is currently being revised to be consistent with recent changes in State law. Saratoga's City Code authorizes the creation of a disaster council which consists of the Mayor and Council at the time the disaster occurs. The Council has the authority to develop and recommend disaster-related plans, policies, ordinances and regulations, and to implement all aspects of the plan. The City Manager functions as the Director of Emergency Services, assuming the direction and control of emergency operations, and the requisitioning of materials and labor. The emergency organization under the director consists of all officers and employees of the City, those volunteers enrolled to aid during an emergency, and any others, who by agreement or operation of law, can be charged with emergency duties.

The Plan is organized into five parts: Part One, the Basic Plan, deals with matters of concept, organization, direction, and control; Part Two, Emergency Response Services, focuses on those services which respond initially to emergency calls and would be immediately required to respond when an official emergency is declared; Part Three, Resource Management Services, encompasses those activities which may or may not be required depending on the nature and scope of the emergency; Part Four, the Staff Services section, is designed to describe key staff assistance required by the Director of Emergency Services for effective management of an emergency; Part Five, the Emergency Operating Center (EOC), describes details of organization and functioning of the EOC. The objectives, concepts, and applicable doctrine of the State and Santa Clara County emergency plans are automatically incorporated into Saratoga's plan, and should be used in conjunction when local emergencies extend into and effect adjacent communities.

Emergency Evacuation Plan

Another facet of the City's responsibility in emergency preparedness is the development of evacuation plans which will readily and effectively relocate residents from hazardous areas to locations of greater safety. An integral part of evacuation planning is the identification of evacuation routes and places of

assembly. Map 6, Evacuation Routes, illustrates the direction of movement on local collector and arterial streets and the designated evacuation routes that should be followed in order to promote safe and efficient evacuation of residents. Proposed places of assembly are chosen for their ability to accomodate significant numbers of people, their relative location to the arterial and collector streets, and their overall geographic location in relation to population concentrations. Roads which serve as collector streets are Fruitvale Avenue, Big Basin Way, and Pierce Road. These collectors feed into the higher capacity arterial streets such as Saratoga-Sunnyvale Road, Quito Road, Saratoga Avenue, Saratoga-Los Gatos Road, and Prospect Road.

The Evacuation Route map shows that the majority of the City's evacuation routes are located in the area between Prospect Avenue and Saratoga-Los Gatos Road, and Saratoga-Sunnyvale Road and Quito Road, where the population is of a higher density than in hillside areas. Depending on the nature of the disaster, some access roads in the hillside areas may be closed or impeded, creating the necessity for residents to evacuate from the area along substandard emergency access roads or by helicopter.

Places of assembly, or congregate care centers, to be opened in the event of a disaster are shown on Map 6 and are designated as "primary places of assembly" or "secondary places of assembly." The primary places of assembly are Saratoga High (Saratoga-Sunnyvale Road and Herriman Avenue), West Valley College (Fruitvale Avenue and Allendale Avenue), and the Odd Fellows Home (Fruitvale Avenue and San Marcos Road). The Odd Fellows Home, although limited in space and occupancy load, is important as an emergency shelter due to the availability of medical care. Secondary places of assembly consist of the remaining seven elementary, junior high and high schools in the City. Saratoga's designated emergency operating centers are also shown on the map. The primary center is located adjacent to City Hall in the Senior Wing of the Community Center, with the secondary center at the Saratoga Fire District station at Saratoga-Sunnyvale Road and Saratoga Avenue. In addition to these facilities, Saratoga is also served by Santa Clara County Emergency Welfare Service Center VIII, located at 700 Gale Drive in Campbell.

IMPACT IDENTIFICATION

Identification of geologic, seismic, flood and fire hazards affecting Saratoga is the first step in estimating the potential safety risks to people and property. The determination of conflict areas and the impact resulting from the identified hazards is the next step in defining those areas of the city at highest risk. By the use of a map which overlays the hazard areas on the City (Map 4), potential impacts to people and property can be identified and used as a basis for safety planning policy formulation.

LAND USE IMPACTS

A major portion of the city of Saratoga is underlain by a geologic stability zone, and resembles a relatively flat valley floor. The land use in this area is predominantly residential of varying density, and is not considered to be geologically hazard prone. However, the potentially active Shannon Fault lies in this area of the City, parallel to the proposed Highway 85 Corridor. Although no recent movement is evident along the fault trace, the most likely secondary effects of an earthquake in this area would be ground subsidence or liquefaction due to the many creekbeds and alluvium soil present in the area.

Commercial land use is concentrated in the Village area, along Saratoga-Sunnyvale Road, and sporadically along Saratoga Avenue. Some commercial properties in the Village have experienced problems related to a high groundwater table and above-ground seepage caused by underground creeks and mineral springs, but no substantial damage has occurred due to geologic hazards.

The most geologically unstable areas in Saratoga, the upper Calabazas Creek watershed and the Congress Springs study area, are predominantly low density residential. Some portions of the Congress Springs area within Saratoga's urban service area are unincorporated and under County jurisdiction. The zoning of the southern section of Bohlman Road, Quickert Road and On Orbit Drive is regulated by the County, with many roads and homes on land considered too unstable for such uses. These roadways will require continual maintenance and could face possible catastrophic failure due to massive landsliding or fault movement along the potentially active Berrocal fault. The geologic and environmental constraints related to seismic hazards in this area make the development potential of vacant parcels doubtful. The County's slope-density zoning allows from approximately 2.5 to 10 acres per dwelling unit; however, the subdivision off On Orbit Drive was developed according to flatland standards during the early 1970's. The City's slope-density zoning allows from approximately 1 to 6 acres per dwelling.

The Northwestern Hillsides Residential District lies within the upper Calabazas Creek watershed and is another region of

Saratoga subject to geologic hazards. The most unstable portion of the watershed is located north and south of the Mt. Eden Road-Pierce Road intersection. Landslide movement has occurred at several residential sites in this section of the hillside, particularly along Pike Road and Sarahills Drive. Recent losses in this area attributed to landslide movement have shown that even those structures built with deep pier and grade beam-type foundations may be damaged or destroyed if the active slip surfaces lie below the depth of foundation penetration. The presence of percolation from underground natural springs in this area has also contributed to the instability of these slopes.

The terrain unit designated as the San Andreas Rift is traversed by the San Andreas Fault. It is considered seismically unstable and subject to intense ground shaking and surface rupture. Development in this region of the Sphere of Influence is sparse, and the area should be considered only for open space preservation in the future rather than urban development.

TRANSPORTATION ROUTE IMPACTS

Major transportation routes such as highways and arterial streets link the neighborhoods of the city and provide essential access both into and out of hazard prone areas. The mobility of public safety officials and emergency personnel is vital in emergency situations. Because evacuation relies upon passable and safe roads, transportation routes are a key concern in safety planning.

Many of the roads in the hillside areas of Saratoga are narrow and traverse areas of questionable stability. Congress Springs Road is continually moving, as are parts of Bohlman and Pierce Roads. The cost of maintaining these roads to acceptable standards is high. Roadbeds are often destroyed by active landsliding into creekbeds, and creeks must be channelled to prevent the reoccurance of damage.

The Bohlman Road area is especially prone to landsliding during the winter months when the soil becomes saturated. Road closure due to an active landslide at the intersection of Norton Road and Bohlman Road would completely isolate the southern portion of Bohlman Road, Belnap, Kittridge, Quickert, and the subdivision on On Orbit Drive. Due to the potential movement of the hillside in this region and deformation of roadbeds, the development of emergency access roads and cost of their maintenance is prohibitive. Should a landslide occur, the only method of emergency access to this area would be by air, requiring the assistance of the Department of Forestry.

Saratoga Creek has the most extensive floodplain in width and length, following the course of Saratoga Avenue from Prospect Road to Big Basin Way. Isolation of the lower portion of this area by flooded roads or bridges crossing the creek channel could prevent evacuation and access by medical, fire and police personnel.

UTILITY IMPACTS

Utility facilities, roads, and other linear structures are particularly vulnerable to damage from seismic activity. Utility systems for water and gas distribution, and sewage disposal are easily disrupted by intense ground shaking and geologic instabilities, and many of these facilities currently cross the San Andreas Fault zone or the Bohlman Road area. Since these regions are the most likely portions of the City to be isolated from emergency services if a disaster should occur, special consideration should be given to the design and location of these utility and roadway networks, and the supporting emergency backup systems.

Slope failure from over-saturation of the soil has occurred in the past in the upper Calabazas Creek watershed area, rupturing water and gas lines and disrupting service for long periods of time. This area of the City has historically been sparsely populated, consisting of low density residential development. However, as more development occurs in this region and more expensive homes are built, more people and property will be endangered if caution is not taken in the site analysis stage of development review.

Water and gas lines can be ruptured by the disposition of debris or the force of floodwaters during periods of heavy rainfall. Contamination of domestic water supplies is another hazard attributed to pipeline rupture. Septic tank systems are unable to function when the ground becomes over-saturated, and have the potential to pollute flood waters. Several hillside developments, along Pierce and Pike Roads and the south portion of Bohlman, Kittridge and Norton Roads, are not served by sanitary sewer lines but are connected to septic tank systems. The developments also tend to be geologically unstable areas subject to slope failure, increasing the risk of water supply contamination during floods.

EMERGENCY RELATED FACILITIES

During times of emergency, certain structures throughout the City are of prime importance to the safety and welfare of those who live in the community. These facilities are used to coordinate emergency relief operations and to give medical care and shelter to those affected by the emergency situation. The safety of these critical buildings and their occupants during times of natural hazards is of paramount importance to the operation of a successful emergency response plan.

Critical structures such as emergency operation centers, hospitals, fire and police stations are often located in areas prone to natural hazards and should receive high priority for building inspections if they were not built according to current safety standards. The Saratoga Fire District Station and the County Sheriff's Office are located at the intersection of Saratoga Avenue and Saratoga-Sunnyvale Road, and lie within the floodplain of

Saratoga Creek. The City's main Emergency Operation Center, City Hall, is located on Fruitvale Avenue at Allendale, just outside Wildcat Creek's 100-year floodway. Los Gatos-Saratoga Community Hospital on Pollard Road in Los Gatos (2 miles from Quito Road) is the most accessible hospital to Saratogoans in the event of an emergency. A floodplain lies just east of the facility and follows the alignment of the Los Gatos portion of Highway 17. Since the County's Emergency Plan makes the assumption that freeways will be unusable and overpasses closed in the event of an earthquake or flood, other valley hospitals may be inaccessible to City residents. If this assumption is correct, the City's evacuation plan will be ineffective. Because of this, it is imperative that a strong individual emergency preparedness program be initiated so that City residents can be self-sufficient for at least 72 hours, or until remote areas of the County are accessible to emergency crews.

Another consideration which could adversely affect the City's evacuation plan is that of conflicting policies by surrounding jurisdictions and the resulting impacts. Two cities adjacent to Saratoga, Los Gatos and Monte Sereno, have substantial areas of unstable hillsides covered with dense vegetation. According to the Los Gatos General Plan, hillside building and site designs are regulated by ordinance, and excessive accumulation of vegetation that could trigger a fire is strictly monitored and controlled. The City also restricts development along single-lane access roads, and emergency access routes must be provided for remote development sites. These policies complement Saratoga's approach to safety planning and emergency preparedness. However, policies of the City of Monte Sereno could have major impacts on the effectiveness of Saratoga's emergency plan. One of Monte Sereno's development policies is to encourage limited neighborhood access with looped streets and cul-de-sacs to prevent thorough traffic and reduce crime, even to the extent that the administration of emergency services might be hindered. Neighborhoods may request a reduction in vehicular access routes if they feel such a measure would preserve the quality of life in their area. The risk of fire in the steep heavily vegetated hillsides south of Highway 9 is high, and reducing the number of emergency access routes could delay the response of police, fire, ambulance and paramedic services, increasing the likelihood of fire spreading to the hillsides of adjacent communities.

In the event of an earthquake or major disaster, residents of Los Gatos and Monte Sereno would share two major evacuation routes with those living in Saratoga. Los Gatos, Monte Sereno and many Saratoga residents would evacuate along Quito Road and Highway 9 (Saratoga-Los Gatos Road). These roads are heavily congested during normal commute hours, and would exceed their maximium traffic capacity during an emergency evacuation. It would be beneficial to all three communities to develop an effective inter-city emergency evacuation plan.

GOALS, POLICIES AND IMPLEMENTATION PROGRAMS

The purpose of the Safety Element is to establish policies designed to achieve the goal of reducing risks from natural hazards. The steps used in the process of establishing policies are : 1) identification of problems or hazards, and 2) the development of solutions or policies. Thus far, the hazards have been defined and mapped, and the potential impacts have been identified. This chapter will focus on the development of solutions.

The City of Saratoga already has adopted many policies and programs which address safety and seismic safety issues. These policies can be separated into four categories: City development standards, General Plan Elements, Specific Plans, and the Emergency Plan. It is important to analyze these existing policies first for the purpose of identifying areas of policy strength, policy weakness, and policy voids. When combined with the issues identified in previous chapters of this Element, this analysis will lead to recommendations on how the goals, policies and implementation programs in the City's existing Safety/Seismic Safety Element can be improved and strengthened.

ANALYSIS OF EXISTING POLICIES AND PROGRAMS

City Development Controls and Standards

The majority of development standards for the City of Saratoga are located in the City Code. Chapter 14 contains subdivision regulations; those sections which specifically address safety issues include Article 14-25, Design Requirements (design standards and dedication of streets, public service easements, and watercourses) and Article 14-30, Improvement Plans (storm water drainage, water provision, and sewer improvement plans). Chapter 15 of the Code contains zoning regulations; those sections which pertain to safety issues include Article 15-13, Hillside Conservation Residential District and Article 15-14, Northwestern Hillside Residential District (maximum site density, particularly for sloped sites), and Article 15-65, Nonconforming Uses and Structures (unsafe buildings, and general standards for nuisance abatement and public safety).

The City has also adopted the most recent edition of the Uniform Building Code (UBC) which contains general construction safety regulations and specific seismic safety standards. Chapter 16 of the City Code contains additional building regulations addressing site drainage requirements, structural reinforcement, fire retardant construction, and automatic sprinklers for certain garages in hazardous fire areas; these regulations serve as modifications to UBC reflecting local conditions.

The Early Warning Fire Alarm System is another important safety policy which was authorized through a General Plan amendment to the Safety Element in 1984, and then implemented through the subdivision, zoning, and building regulations.

Ground Movement Potential Maps of the Upper Calabazas Creek, the Congress Springs Study Area, and the Lower Saratoga Hillside Area have been adopted as Article 16-65 of the Building Regulations, along with restrictions and requirements for development in certain areas based on designations of slope stability depicted on the maps. In those areas designated as having extreme potential for ground movement, further professional analysis must be obtained certifying that the site is safely developable. If deemed necessary by the City Geologist, precautionary measures must then be undertaken as a condition of development.

General Plan Elements

It is the purpose of the Safety Element to reduce risk from natural hazards. This element, however, is not the only element containing goals and policies designed to make Saratoga a safer place in which to live. Five other General Plan elements, as follows, contain policies intended to reduce danger to people and property from natural hazards (the number in parentheses refers to the goal, policy or implementation measure from the specified General Plan element):

Land Use Element

The City shall use the design review process to assure that new construction and major additions thereto are compatible with the site and the adjacent surroundings. (5.0)

Relate new development and its land uses to presently planned street capacities so as to avoid excessive noise, traffic, and public safety hazards. If it is determined that existing streets need to be improved to accomodate a project, such improvements shall be in place or bonded for prior issuance of building permits. (6.0)

Circulation and Scenic Highway Element

Traffic impacts that could create excessive noise, safety hazards, and air pollution shall be mitigated. The City shall use the standards established by the State of California and in effect on February 14, 1983, to determine what constitutes excessive noise, safety hazards, and air pollution until the City adopts its own standards or more restrictive standards are adopted by the State. (10.0)

Open Space Element

Use open space to protect human life and property from such hazards as wildfires, earthquake destruction, landslides and flooding. (2.0)

Continue enforcement of existing flood control regulations. This will supplement the Flood Plain Map which is part of the General Plan. (Imp)

Conservation Element

Preserve the quality of the natural environment and the character of the City through appropriate regulation of site development. (3.0)

Maximum impervious coverage limits used by the City shall be evaluated and, if necessary, revised to ensure that runoff due to new development will not create flooding or erosion impacts. (3.6)

Housing Element

The City shall mitigate the danger of earthquake damage by enforcing strict earthquake construction and soil engineering standards, selecting the most stable areas for development, and by having developers compensate for soil instabilities by approved engineering and construction techniques. (3.1)

Development shall be designed to retain the natural topographic features of the land to the maximum extent possible. (3.2)

Any development in areas subject to natural hazards shall be designed to protect the environment, inhabitants and general public. In areas where personal injury, property damage, or damage to streets and utilities could occur, development shall be prohibited, unless the potential hazards can be mitigated or avoided through engineering or construction techniques. (3.3)

Specific Plans

In addition to the basic Elements, the City's General Plan includes two specific plans, The Northwestern Hillside Specific Plan and the Sphere of Influence Special Plan, which address specific safety and seismic issues for those areas of the City.

Northwestern Hillside Specific Plan

The Northwestern Hillside Specific Plan was adopted by the City of Saratoga to implement Measure "A" which was passed in 1980. The purpose of the plan is to reduce danger to the northwestern hillside community (approximately 2,100 acres) and its environment

from geologic hazards through the implementation of goals, policies, and programs specifically addressing the following issues: geology and soils, hydrology and flooding, fire hazards, water provision, fire/emergency services, site and storm drainage, environmental resource management, and community development. Residential density in the NHR District is one unit per acre, which may be further reduced by use of a slope/density formula. This formula has also been applied to the HCRD District, so that vitually all of the hillside areas in Saratoga are restricted to very low-density development. Because of its length and level of detail, the plan's summary of goals, policies and implementation programs is located in Appendix B of this Element.

Sphere of Influence Special Plan

Saratoga adopted the Sphere of Influence Plan as a Special Area Plan in 1974 to assist in the formulation of policies leading to an appropriate balance of conservation and development in the area. The plan was designed to guide future City decisions relating to annexation, development and public safety in the City's Sphere of Influence, which is that area outside the City's incorporated boundary designated by LAFCO (Local Agency Formation Commission) as the unincorporated area most likely to be influenced by/or annexed to the City at some future date. This area encompasses approximately 9,480 acres of hillside land under the jurisdiction of Santa Clara County, with the City having secondary review authority. Like the Northwestern Hillside Plan, the sphere plan is long and detailed, and its summary of goals and policies is located in Appendix C of this Element. The plan has not been amended since its adoption in 1974.

Emergency Plan

In order for the City to be eligible for disaster-related financial assistance, it must update its local emergency plan every four years and assess its adequacy. However, even though the City adopted its plan in 1986, it already requires revision because of recent changes in State law. The 1986 plan remains incomplete with six sections of Part Four (Staff Services), such as the "Disaster Analysis Section," still unfinished. This section is a vital component of emergency preparedness planning and the anticipation of mitigation, response, and recovery actions inherent to the plan's effectiveness. The potential for various emergency situations must be addressed in order to prepare for the necessary response and action. Although the plan adequately addresses organization, management and general response services during times of disaster, specific directions related to the assessment of past and potential hazards are needed; this section should be completed and be consistent with this Element. An Evacuation Route map, detailing specific arterial and collector streets, and emergency shelters or congregate care facilities should also be included in this section of the plan.

Part Three of the Emergency Plan, Resource Management Services, has not been prepared. This part deals with procurement service, health service, transportation service, manpower service, and construction and housing service required, depending on the nature and scope of the emergency. This is essential information for emergency staff members who must provide support to the public.

Saratoga's geographical location is not conducive to total County disaster-related support, and could be isolated from other communities and outside agencies during the first 24 to 48 hours following a regional disaster such as an earthquake. Emergency training exercises, held at least once a year and sponsored by the County, test the City's current emergency plan and efficiency level for immediate response to a disaster. However, the conduct of emergency planning should not be left only to the employees of the City, but should include individual preparedness on the part of citizens through an active emergency preparedness education program.

Until 1986, annual disaster exercises were conducted in Saratoga by the Emergency Preparedness Coordinator and the local fire districts to prepare staff for their assignments during an emergency situation. However, since then the City has participated in only the countywide exercises. For the annual City-sponsored exercise, a scenario was established which provided a basis for emergency function and action, with the planning department staff responsible for maintaining current information on the City map regarding transportation routes closed or impeded, areas of major damage, location of medical treatment and congregate care facilities, limits of the evacuation area, control points, and exit routes. In order to ensure coordinated and timely emergency response, the City staff should be aware of their responsibilities, with practice exercises held annually. The Emergency Plan should also be reviewed annually for consistency with State law and updated in a timely manner.

ISSUE IDENTIFICATION AND ADOPTED GOALS, POLICIES AND IMPLEMENTATION PROGRAMS

In the hazard and impact identification chapters of this element and in the analysis of existing City safety policies, significant issues relating to the identified hazards and the City's plans for addressing them have been raised. These issues, and the recommended goals, policies and implementation programs to address them, are presented in the following pages.

Hazards of Land Instability

ISSUE #1: The physical and geologic characteristics of Saratoga have the potential to produce geologic instability problems for land development. Hazards occur when property is developed in ways which are unsuitable to geologic conditions in the area. Areas of particular concern to the City due to their history of geologic instability are the Upper Calabazas Watershed, the Congress Springs Study Area, and the Lower Saratoga Hillside Area.

1.0 (Goal) To protect residents from injuries and minimize property damage resulting from land instability and geologic hazards in populated areas.

1.1 (Policy) No development shall be permitted in the designated urban service area without individual site-specific geotechnical investigations to determine depth of bedrock, soil stability, location of rift zones and other localized geotechnical problems.

1.1 (Imp) The City Geologist will review proposals involving sites having potential land instability or geologic hazards, and will make recommendations accordingly.

1.2 (Policy) Development in areas subject to natural hazards shall be limited and shall be designed to protect the environment, inhabitants and general public. In areas which have been proven to be unsafe, development of structures for human habitation shall be prohibited to the maximum extent permitted by law.

1.2 (Imp) Identify any areas of significant natural hazards as they become known. Development will not be allowed in these areas unless conditioned to mitigate such hazards.

1.3 (Policy) Proposals for General Plan amendments, zone changes, use permits, variances, building site approvals, and all land development applications subject to environmental assessment according to CEQA guidelines shall be reviewed for hazardous conditions utilizing the most current data.

1.3 (Imp) Mitigation measures to eliminate potential geologic hazards identified during the environmental review process will be required as conditions of development.

Seismic Hazards

ISSUE #2: Seismic activity and its secondary effects such as ground shaking, surface rupture or ground displacement along fault lines, and ground failure are potential hazards to the populated areas of the City. Two "potentially active" faults, the Berrocal and the Shannon, lie within the City limits, while the "active" San Andreas Fault traverses the City's Sphere of Influence.

2.0 (Goal) To protect the residents of the City and surrounding areas from seismically induced hazards.

2.1 (Policy) In order to mitigate the danger of earthquake damage, the City shall enforce strict earthquake construction and soil engineering standards, selecting the most stable areas for development and requiring developers to compensate for soil instabilities through approved engineering and construction techniques.

2.2 (Policy) Critical structures and systems vital to the public health and safety (water, power and waste disposal systems, police and fire stations, and communication facilities) shall not be located in areas of land instability and shall be designed to mitigate any seismic or geologic hazards associated with their sites.

2.1 & 2.2 (Imp) A series of General Plan reference maps delineating geotechnical hazards and environmental constraints is to be maintained and periodically updated as necessary to aid in the review of development proposals.

2.3 (Policy) The City should comply with State statutes regarding the identification of nonreinforced masonry structures.

2.3 (Imp) The City will inventory all nonreinforced masonry structures in the Village area as State funding for such an inventory becomes available, and develop a program to help mitigate structural hazards related to such buildings.

Flood Hazards

ISSUE #3: Historically, much of the damage to private and public property during periods of heavy rainfall has been due to slope failure in hillside areas, induced by over-saturation of the soil

and/or by rising groundwater levels. Flooding and flood induced landsliding can also isolate areas of the City and hinder the provision of emergency services. Traversing the City are several creeks having extensive floodplains and watersheds where the future risk of flooding is great.

3.0 (Goal) To reduce the damage to public and private property resulting from flooding and flood induced hazards.

3.1 (Policy) The City shall continue to enforce its existing flood control regulations, and will cooperate with the Santa Clara Valley Water District when proposed projects will affect floodways in the City in order to prevent development activities from aggravating or causing potential flood problems.

3.1 (Imp) All proposed projects adjacent to floodways and floodplains will be referred to the Water District for review and comments.

3.2 (Policy) The City shall continue to participate in the National Flood Insurance Program.

3.2 (Imp) The City will adopt and enforce a Floodplain Management Ordinance, based on the national Model Floodplain Management Ordinance to satisfy the requirements of the National Flood Insurance Program.

3.3 (Policy) The City shall continue to enforce its existing regulations pertaining to impervious coverage to reduce potential hazards from excessive run-off.

3.3 (Imp) Implement by continuation of existing zoning regulations as contained in the City Code.

Fire Hazards

ISSUE #4: The danger of property damage and loss of life from fire is considered greatest in the hillside areas of Saratoga where dry brush is prevalent and the provision of fire protection services is inadequate. Even though fire protection services appear adequate for the more densely populated urbanized areas of the City, summer fires pose a severe threat to wood-shingled homes which are especially susceptible to the rapid spread of fire.

4.0 (Goal) To reduce the danger of property damage and loss of life due to fire in both urban and rural areas of the City.

4.1 (Policy) The City shall require the installation of an early warning fire alarm system in each of the following cases:

(a) All new single family dwellings and any existing single family dwellings which are expanded by fifty percent or more in floor area, where such new or expanded dwellings are located within designated hazardous fire area.

(b) All new single family dwellings having a gross floor area in excess of 5,000 square feet.

(c) Any existing single family dwelling which is expanded by fifty percent or more in floor area which, after such expansion, will exceed 5,000 square feet in gross floor area.

(d) All new multi-family dwellings and other new structures having multiple sleeping units, such as hotels, motels, apartments, condominiums or other community housing projects, townhouses and nursing homes.

(e) Any existing multi-family dwelling or other existing structure having multiple sleeping units such as described in Paragraph (d) above, which is expanded by fifty percent or more in gross area.

4.1 (Imp) Implement through continuation of existing subdivision, zoning and building regulations as contained in the City Code.

4.2 (Policy) The Chief of the fire district having jurisdiction should be authorized to require the installation of an early warning fire alarm system in any new commercial structure or community facility, or expansion of an existing commercial structure by fifty percent or more in gross floor area, whenever the Chief deems such requirement to be necessary or appropriate on the basis of facts and circumstances in each individual case.

4.2 (Imp) Implement through continuation of existing subdivision, zoning and building regulations as contained in the City Code.

4.3 (Policy) The City shall encourage all property owners to install an early warning fire alarm system on a voluntary basis where such owners are not otherwise required to do so.

4.3 (Imp) Implement by continuation of existing provision in the building regulations allowing voluntary installation of the system and publicize the availability of the system for any property located within the City.

4.4 (Policy) The City shall continue to enforce its existing regulations pertaining to hazardous fire areas, fire retardant construction and landscaping.

4.4 (Imp) Periodically review subdivision, zoning and building regulations which pertain to hazardous fire areas to determine if significant changes are required.

4.4a (Imp) Update map depicting hazardous fire areas as needed.

4.5 (Policy) The City shall study the need for additional fire prevention regulations for the built-up, populated areas of the City.

4.5 (Imp) The City, in cooperation with the local fire districts, will review and modify, as necessary, existing building regulations to require Type A & B fire retardant roof materials in the densely populated flatlands of the City.

Emergency Preparedness

ISSUE #5: Saratoga has developed an emergency plan to provide for effective emergency response. The development of an effective evacuation plan to relocate residents from hazardous areas during an emergency is also the City's responsibility. However, for the plan to operate effectively during a disaster, the plans of the surrounding jurisdictions must be taken into consideration in order to foresee preventable hazards and impacts on a regional basis.

5.0 (Goal) To develop and maintain an emergency preparedness plan which will provide effective response in the event of a natural or manmade disaster.

5.1 (Policy) The City shall review and update on a regular basis its plan for emergency preparedness. This plan shall use local resources and manpower to provide maximum benefit and protection for the City's residents.

5.1 (Imp) Review and update annually the City's Emergency Plan, modifying the plan if significant changes are required. Sections of the plan which are incomplete will be completed in a timely manner.

5.2 (Policy) The City shall coordinate its plan with local jurisdictions and regional agencies to anticipate cumulative impacts during times of disaster.

5.2 (Imp) Review adjacent jurisdictions' plans and resolve areas of potential conflict.

5.3 (Policy) The City shall encourage all citizens to take responsibility for their own safety in the event of a disaster.

5.3 (Imp) The City shall publicize and participate in disaster preparedness exercises, and distribute emergency planning information to the citizens of Saratoga.

REFERENCES

Association of Bay Area Governments (ABAG). Building Stock and Earthquake Losses: The San Francisco Bay Area Example. 1986.

Bay Area Regional Earthquake Preparedness Project. "Earthquake Hazards/Land Use Planning," APA Professional Development Workshop. Metro Center, Lake Merritt, Oakland: 15 October 1986.

Bay Area Regional Earthquake Preparedness Project. Earthquake Hazard Mitigation Programs at the Community Level, developed by William Spangle and Associates and the Reitherman Co. Oakland, CA: 1985.

Bay Area Regional Earthquake Preparedness Project. Effective Use of Earth Science Information at the Local Government Level: A Summary Report. Oakland, CA: June 1985.

State of California, Department of Conservation, Division of Mines and Geology. Fault-Rupture Hazard Zones in California. Sacramento, CA: revised 1985.

State of California, Seismic Safety Commission. California Risk: Reducing Earthquake Hazards - 1987 to 1992. Sacramento, CA: 1 September 1986.

State of California, Seismic Safety Commission. Rehabilitating Hazardous Masonry Buildings: A Draft Model Ordinance. Sacramento, CA: December 1985.

California State Transportation Agency. State Route 85: Transportation Corridor: Environmental Impact Statement. Caltrans: September 1985.

William Cotton & Associates. Analysis of the Geologic Hazards of the Congress Springs Study Area. Santa Clara County, CA: 31 May 1977.

William Cotton & Associates. Preliminary Storm Damage Assessment: Winter 1982-1983. Saratoga, CA: 1983.

William Cotton & Associates. Geologic Hazards Analysis of the Upper Calabazas Creek Watershed. Saratoga, CA: 20 January 1980.

Cunningham, Florence R. Saratoga's First Hundred Years, edited by Frances L. Fox. Saratoga Historical Foundation. Fresno: Valley Publishers, 1976.

Fugro, Inc. Geotechnical Study: Seismic Safety Element for the City of Saratoga, prepared for Williams & Mocine, consultant to the City of Saratoga. San Francisco, CA: 22 June 1973.

Town of Los Gatos. General Plan. Planning Department. Los Gatos, CA: adopted by Town Council, 1985.

City of Monte Sereno. General Plan. Planning Department. Monte Sereno, CA: adopted 11 May 1982.

City of San Jose. The General Plan, City of San Jose, California: Seismic Safety Plan. Planning Department, assisted by Cooper, Clark and Assoc.; Duncan and Jones; Rinne and Peterson; Environmental Assessment Engineering; and William Ellis and Assoc. September 1974.

City of Santa Cruz. City of Santa Cruz General Plan: Seismic Safety and Safety Element. Planning Department. Santa Cruz, CA: July 1976.

City of Saratoga. Code of the City of Saratoga. Volumes I & II. Saratoga, CA: adopted 1986.

City of Saratoga. Emergency Plan, prepared by the Disaster Council. Saratoga, CA: January 1986.

City of Saratoga. Northwestern Hillside Specific Plan, a specific plan to the City of Saratoga. Saratoga, CA: adopted by the City Council, 1981.

City of Saratoga. Sphere of Influence Special Plan, a special plan to the City of Saratoga's General Plan. Saratoga, CA: adopted by the City Council, 1974.

City of Scotts Valley. City of Scotts Valley General Plan, prepared by Environmental Management Consultants. Monterey, CA: 29 January 1986.

Santa Clara County. General Plan of Santa Clara County. Planning Department. Santa Clara County, CA: adopted by the Board of Supervisors, March 1982.

Santa Clara County. The General Plan, Santa Clara County: Seismic Safety Plan. Planning Department. Santa Clara County, CA: adopted by Board of Supervisors, 12 January 1976.

Tank, Ronald. Focus on Environmental Geology. London: Oxford University Press, 1976.

Terratech Geotechnical Services. Geological Hazards Analysis of the Lower Saratoga Hillside Area. Project 3595, for the City of Saratoga. Saratoga, CA: December 1985.

Thaxton, Chief Richard K., Central fire Protection District. San Jose, CA: 17 March 1987.

United States Department of Housing and Urban Development and the Federal Insurance Administration, National Flood Insurance

Program. Flood Insurance Study. City of Saratoga, Santa Clara County, CA: July 1978.

United States Department of the Interior, U.S. Geological Survey. Seismic Hazards and Land Use Planning. Geological Survey Circular 690. Washington, D.C.: 1980.

United States Department of the Interior, U.S. Geological Survey and the Department of Housing and Urban Development. Earth Science Information in Land Use Planning - Guidelines for Earth Scientists and Planners, prepared by William Spangle & Associates; F. Beach Leighton & Associates; and Baxter, McDonald & Company. Geological Survey Circular 721. Arlington, VA: 1976.

Victorine, Tom, Systems Project Supervisor, San Jose Water Company. San Jose, CA: 17 March 1987.

APPENDICES

APPENDIX A
Glossary

Active Fault Zone: Fault area which has experienced displacement during geologic time (within the past 10,000 to 600,000 years), indicating that further movement might occur.

Floodplain: The area bordering a stream which becomes flooded when the stream overflows its channel.

Lifelines: Public facilities and services that the metropolitian population are dependent upon such as transportation and communication networks, power, gas and water lines.

Mercalli Scale: A scale of earthquake intensity ranging from I to XII. Based on observable effects at a given place.

Potentially Active Fault Zone: Fault area showing evidence of surface displacement during Quarternary time or the last 2 million years.

Rift Zone: A large fault where lateral movement occurs.

Richter Scale: A scale of earthquake magnitude based on the logarithm (base 10) of the amplitudes of the deflections created by earthquake waves and recorded by a seismograph.

Rural Residential: Low density single-family residential development and agricultural uses with compatible conditional uses. Local jurisdiction usually provides a minimal level of service.

Seismic: Pertaining to an earthquake or earth vibration, including those that are artifically induced.

Sphere of Influence: That area outside the City's incorporated boundary, but designated by the Santa Clara County Local Agency Formation Commission as the unincorporated area most likely to be influenced and annexed by the City in the future.

Urban Residential: Medium to high density single- and multi-family residential development and compatible conditional uses. Local jurisdiction usually provides full array of urban services.

Tilt-up Structure: Concrete walls are poured on the ground, allowed to harden, and then tilted into place.

APPENDIX B
Northwestern Hillside Specific Plan

The Northwestern Hillside Specific Plan was adopted by the City of Saratoga after the passage of Measure "A" in 1981. The purpose of the plan is to reduce danger to the hillside community and its environment from geologic hazards. The specific goals, policies, and programs which address safety and seismic safety concerns are listed below. The Northwestern Hillsides Residential District Ordinance (Article 15.14 of the City Code) was adopted to implement these policies.

GOALS

1. Land use regulation shall be based upon natural, flood and geologic hazards.

Geology and Soils

POLICIES

1. Geologic hazards should be avoided to the fullest extent possible by either correction or dedications of such areas into open space. In avoiding geologic hazards, applications proposing structures be located on lands designated Md or Mrf or within the specific fault setbacks as designated by the City Geologist, shall not be approved.

2. Every applicant seeking approval of any construction project within the Specific Plan Area shall at all times have the burden of providing, to the satisfaction of the City and its Geologist and other professional consultants, that the proposed development will be constructed in such a manner as to be safe from known or reasonably predictable geologic hazards which may cause injury to persons or property.

3. The Geologic Hazards Analysis of the Upper Calabazas Creek watershed is a planning document which may require modification.

4. No deviations or modifications of the Maps shall be permitted without prior written approval of the City Geologist.

5. In locating building sites, preference should be given to areas designated as stable (Sbr, Sls, Sun, Sex) on the Ground Movement Potential Maps. Especially sites on potentially moving slopes (Pmw, Ps, Pd) and moving slopes (Ms) shall not be approved unless geologic and engineering analysis and design provided by the developer clearly demonstrate the long-term stability of such sites to the satisfaction of the City, its Geologist and other professional consultants.

6. On questionable sites the City Geologist may require slope stability analysis with the building site and its immediately surrounding area having a factor of safety against failure of at least 1.5 or equivalent, in the event of a designed earthquake of magnitude 8.3 on the San Andreas Fault. The City Geologist shall review and approve all proposals to insure conformance with this requirement.

7. The City, Santa Clara Valley Water District, Evergreen Resource Conservation District and Santa Clara County should immediately commence proceedings with the landowners for the stabilization of the abandoned quarry areas on the Paul Masson Vineyard and Cocciardi properties as well as other erosion reduction activities.

8. If grading proposed for a project, as specifically approved by the Planning Commission, City Geologist and City Engineer, corrects a geologic hazard, then roads, driveways and structures may be located on such graded areas as approved.

9. Projects or portions thereof that require a high level of maintenance activity over the long-term to prevent slope failures should generally not be approved since the City's ability to perform or enforce performance of maintenance is limited. Project design should principally use solutions that minimize risk in not affecting public or private structures in the event of failure.

10. City should continue to strictly enforce its grading ordinance through the City Geologist and Department of Inspection Services and control of all work by soils engineer and geologist on all projects in hillsides.

ACTION PROGRAM

1. Design and/or revise Ordinances to carry out the above policies for entire Specific Plan Area.

Hydrology and Flooding

POLICIES

1. For site specific policies, see Site and Storm Drainage.

2. City Council, Planning Commission and City Staff should continue all available efforts to secure remedy to flooding and erosion problems along the main Calabazas and in already developed areas.

3. Long-term maintenance of natural watercourses of smaller size than would qualify for Santa Clara Valley Water District jurisdiction should be by homeowners in tributary areas

using private resources and with City review and approval of any proposed improvements or maintenance.

4. Continue (and expand to include Specific Plan Area) pro-rata share fees for drainage, insuring that they are large enough to pay all costs of necessary facilities to eliminate flooding at the 100 year storm level.

5. Recommend continuing support of long-term study of hydrology of area.

ACTION PROGRAM

1. Work with the Santa Clara Valley Water District to develop appropriate procedures for the above policies.

Fire Hazard

POLICIES

1. Encourage landscaping with non-hazardous, drought resistant vegetation.

ACTION PROGRAM

1. Recommend landscaping of non-hazardous vegetation at CC&R stage.

Water

POLICIES

1. Upgrade provisions of water for adequate fire protection in the hillsides.

2. Improve supply of water for fire protection for existing homes by establishing the water improvement project.

ACTION PROGRAM

1. Allow formation of the Water Assessment District.

2. Continue Subdivision Ordinance Section which requires 1,000 gallons per minute of water for any new development prior to issuance of building permit.

Fire/Emergency Services

POLICIES

1. Require wiring for Early Warning Fire Reporting System adopted by Saratoga Fire District Board with optional hookup to

homeowner.

2. Improve response time for hillside area.

ACTION PROGRAM

1. Adopt Early Warning Fire Reporting System Ordinance.

2. Study need for a Fire Station in the western hillsides and possibility for joint ownership between the two fire districts.

3. Consider specifying roofing requirements (other than wood).

4. Adopt such other measures as are necessary to increase fire protection in this area.

Site and Storm Drainage

POLICIES

1. Developer, through actual improvements and fees, to provide for installation and maintenance of Storm Drainage System.

2. All major facilities to be designed to provide for 100 year storms - local and minor facilities design provide for 20 year storms.

3. Landscaping and resultant site drainage plan to be approved with Design Review approval of the residence prior to issuance of permits.

4. Site drainage plans to be approved so as to not impact adjacent properties.

ACTION PROGRAM

1. Increase improvement criteria and fees if called for in study.

APPENDIX C
Sphere of Influence Special Plan

Saratoga adopted the Sphere of Influence Plan as a Special Area Plan in 1974, pursuant to State Government Code Title 7, Chapter 3, Article 8, to assist in the formulation of policies leading to an appropriate balance of conservation and development in the area. The plan was designed to guide future City decisions relating to annexation, development and public safety in the City's Sphere of Influence. Concise objectives and policies regarding environmental hazards are specified in this plan and include the following:

Environmental Resource Management

GOALS

1. To preserve open space for a natural rural environment, health and safety purposes, and for scenic and recreational uses.

2. To permit uses and densities compatible with the physical limitations of the land.

3. To preserve the natural environment of the Santa Cruz Mountains.

4. To insure protection of rare or endangered plant and animal species.

5. To protect County watersheds and natural waterways from pollution.

6. To regulate development in order to mitigate its undesirable effects.

POLICIES

1. In areas of periodic, predictable hazard, such as flood plains or fault zones, apply special zoning to allow only compatible uses.

2. Postpone development of areas with an unacceptable level of environmental risk unless or until the hazards are reduced by corrective action.

Community Development

POLICIES

1. Coordinate the Plan with other plans proposed or in effect in the Santa Cruz Mountains. Participate in a common coordinate system for mapping and a data bank for information retrieval and storage with all four counties traversed by the Santa Cruz Mountains.

2. Assign uses and densities to the land as an inverse function of geologic, topographic, seismic, and public health hazards.

3. Temporarily restrict development in areas not served by public services, roads, and schools until adjacent areas having these services are developed.

4. Regulate and limit the manner of development in the Sphere of Influence based on slope conservation guidelines, findings of topography, geology, soils, safety, conservation, public facilities availability, and access.

5. Withhold public services in areas not suitable for development.

6. Periodically review and revise land uses and formulas for density determination.

7. Consider drainage implications of development on creeks to reduce erosion, to protect their natural state and to reduce flooding at lower elevations.

8. Encourage zoning in conformance with the policies and objectives of this plan.

9. Developments which are likely to cause or to create hazards should not be permitted.

10. Measures to correct, reduce and eliminate hazards should be utilized whenever feasible.

11. Emergency plans should be adopted for evacuation, maintenance of order, locating and distributing resources, and the restoration of services and normal activity.

APPENDIX D

Existing Safety/Seismic Safety Element

A seismic safety element consisting of an identification and appraisal of seismic hazards such as susceptibility to surface ruptures from faulting, to ground shaking, to ground failures, or to effects of seismically induced waves such as tsunamis and seiches. A safety element for the protection of the community from fires and geologic hazards including features necessary for that protection as evacuation routes, peak water load supply requirements, minimum road widths, clearances around structures, and geologic hazard mapping in areas of known geologic hazards.

SS/S.1.0 Protect residents from injuries and minimize property damage from earthquakes, flooding, and other natural hazards in populated areas.

SS/S.1.1 The City shall continue to enforce its existing flood control regulations, and will cooperate with the Santa Clara Valley Water District when proposed projects will affect floodways in their jurisdiction, to prevent development activites from aggravating or causing potential flood problems.

1.1 (Imp) (The policy is specific and does not require an implementation measure.)

SS/S.1.2 The City shall adopt an ordinance providing a hazardous fire area overlay zone, which shall reinforce development regulations concerning fire-retardant construction and landscaping.

1.2 (Imp) (The policy is specific and does not require an implementation measure.)

SS/S.2.0 Update regularly the City's Emergency Plan.

SS/S.2.1 The City shall prepare, review and update on a regular basis a plan for emergency or disaster action. This plan shall use local resources and manpower to provide maximum benefit and protection for the City's residents.

2.1 (Imp) The City's Emergency Plan shall be reviewed annually and modified if significant changes are required.

SS/S.3.0 Maximize the protection of residents and property from the hazards of fire by requiring or promoting the installation of an early warning fire alarm system consisting of heat and smoke

detectors capable of transmitting a signal directly to the fire station.

SS/S.3.1 The City shall require the installation of an early warning fire alarm system in each of the following cases:

(a) All new single family dwellings and any existing single family dwellings which are expanded by fifty percent or more in floor area, where such new or expanded dwellings are located within designated hazardous fire area.

(b) All new single family dwellings having a gross floor area in excess of 5,000 square feet.

(c) Any existing single family dwelling which is expanded by fifty percent or more in floor area which, after such expansion, will exceed 5,000 square feet in gross floor area.

(d) All new multi-family dwellings and other new structures having multiple sleeping units, such as hotels, motels, apartments, condominiums or other community housing projects, townhouses and nursing homes.

(e) Any existing multi-family dwelling or other existing structure having multiple sleeping units such as described in Paragraph (d) above, which is expanded by fifty percent or more in gross area.

3.1 (Imp) Implement through amendment of the subdivision, zoning and building regulations as contained in the City Code.

SS/S.3.2 The Chief of the fire district having jurisdiction should be authorized to require the installation of an early warning fire alarm system in any new commercial structure or community facility, or expansion of an existing commercial structure by fifty percent or more in gross floor area, whenever the Chief deems such requirement to be necessary or appropriate on the basis of facts and circumstances in each individual case.

3.2 (Imp) Implement through amendment of the subdivision, zoning and building regulations as contained in the City Code.

SS/S.3.3 The City shall encourage all property owners to install an early warning fire alarm system on a voluntary basis where such owners are not otherwise required to do so.

3.3 (Imp) Implement by including in the building regulations a provision allowing voluntary installation of the system and publicize the availability of the system for any property located within the City.

NOISE ELEMENT

OF THE

GENERAL PLAN

CITY OF SARATOGA

Adopted by City Council
August 17, 1988

Prepared by

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CITY OF SARATOGA NOISE ELEMENT

INTRODUCTION

The Noise Element of the General Plan for the City of Saratoga has been prepared to meet the requirements of California planning law Section 65302 (f), which requires a Noise Element as one of the seven mandatory components or elements. The Noise Element has been prepared in recognition of the guidelines adopted by the State Office of Noise Control pursuant to the Health and Safety Code. The Noise Element quantifies the community noise environment in terms of noise exposure contours for both the near and long-term levels of growth and traffic activity.

Purpose and Goal of Noise Element

The purpose of the Noise Element is to define and prescribe ambient noise levels for the various land uses in Saratoga in order that the quiet residential atmosphere of the City will be maintained. The Element identifies areas where noise exceeds acceptable levels, and evaluates existing and potential sources of noise so that noise may be effectively considered in the land use planning process. As a matter of policy, the City considers all residentially-zoned property in Saratoga to be "noise sensitive." In addition, specific land uses such as schools and convalescent homes, are identified as being noise sensitive. Accordingly, the Noise Element is intended to be used by the community in the goal of preserving the quiet residential environment of Saratoga by controlling noise to levels that are compatible with existing and future land uses, and by preventing increases in noise levels where noise sensitive land uses are located.

DEFINITION AND DESCRIPTION OF NOISE ENVIRONMENT

Sound and Noise

Sound results from pressure alterations propagated in an elastic medium. In air, sound consists of changes in pressure that alternate above and below the atmospheric pressure. When vibrating objects accelerate the air next to them, alternate waves move through the air similar to waves in water. As the waves encounter an object, a force is exerted which causes the object to move. When the object is the human ear drum, forces are transmitted to the middle and inner ear sections where each vibration is ultimately carried to the brain and is interpreted as sound. Sounds have various characteristics including variations in intensity (loudness), frequency (pitch), incidence (constant vs. intermittent), and complexity (purity of pitch).

Noise is usually defined as unwanted sound. It is difficult to objectively describe noise since what is desirable sound to oneperson may be noise to another individual. The intensity, duration, time of occurrence and frequency components of the sound contribute to its identification as sound or noise. There are, however, many sounds which originate from transportation sources that are categorized as noise by most everyone. Generally, the determination of which sounds are noise vary by the individual's experience, learning, or activity state. Strange sounds are considered as noise compared to more familiar sounds. Random sounds are usually more disturbing than predictable sounds. Sounds which occur during activities requiring quiet are perceived as being noisier than sounds of the same intensity occurring during a more active period. Research indicates that loud, high-pitched, intermittant sounds are more annoying and considered the "noisiest".

The Measurement of Sound

The measurement of sound involves two basic problems, a very wide range of pressures and the nonlinear manner in which the ear responds to sounds of varying intensity and frequency. It has been found that the human ear responds logarithmically to changes in loudness of an applied stimulus. Therefore, most sound measuring instruments are calibrated to read in terms of the common logarithm of the ratio of sound pressure. The meter reading is called the sound pressure level and is expressed in decibels (dB).

Zero (0 dB) on the decibel scale is the lowest sound level that a healthy human ear can detect under very quiet conditions. As the sound level measuring scale is logarithmic (not in linear units like inches or pounds), a wide range of sound level changes can be expressed without using large, unwieldy numbers. For example, 10 decibels is 10 times more intense than 1 decibel, 20 decibels is 100 times greater than 1 decibel and 30 decibels is

1000 times greater than 1 decibel in sound intensity. In relating decibels to human perception, it is necessary to use a particular type of decibel scale. This is known simply as the A-scale, which simulates the response by the human ear, a response more perceptive of mid-range frequencies. The A-scale is universally used for measuring sound levels because of its similarity to human perception. Typical "A" weighted sound levels for various sources measured at the distances shown are listed below:

NOISE SCALE

Source	Distance	Sound Level (dBA)
Soft whisper	5 ft.	30
Quiet office	---	40
Light traffic	100 ft.	50
Average speech	3-5 ft.	60
Automobiles	50 ft.	70
Inside bus	---	80
Leaf blower	25 ft.	85
Inside subway train	---	90
Freight train	25 ft.	100
Automatic punch press	3 ft.	110
Pneumatic chipper	5 ft.	120
Threshold of pain	---	130

The graph shown below further shows the relationship of how the level of noise varies with distance as well as the decibel level.

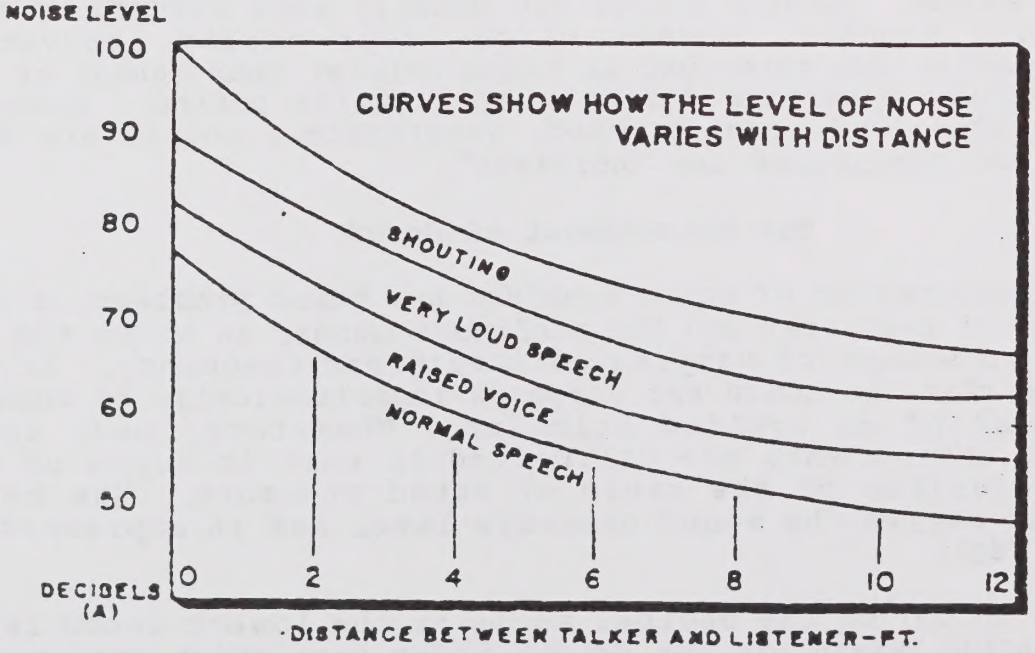


Figure 1 expands on the above list by showing the relationship between various indoor and outdoor noises, their decibel level and their relative loudness.

FIGURE 1

Sound Levels and Loudness of Illustrative Noises in Indoor and Outdoor Environments
(A-Scale Weighted Sound Levels)

dB(A)	OVER–ALL LEVEL (Sound Pressure Level Approx. 0.0002 Microbar)	COMMUNITY (Outdoor)	HOME OR INDUSTRY (Indoor)	LOUDNESS (Human Judgment of Different Sound Levels)
130				
	UNCOMFORTABLY	Military Jet Aircraft Take-Off With After-Burner From Aircraft Carrier @ 50 Ft. (130)	Oxygen Torch (121)	120dB(A) 32 Times as Loud
120				
	LOUD	Turbo-Fan Aircraft @ Take-Off Power @ 200 Ft. (118)	Riveting Machine (110) Rock-N-Roll Band (108-114)	110dB(A) 16 Times As Loud
110				
	VERY	Jet Flyover @ 1000 Ft. (103) Boeing 707, DC-8 @ 6080 Ft. Before Landing (106) Bell J-2A Helicopter @ 100 Ft. (100)		100dB(A) 8 Times As Loud
100				
	LOUD	Power Mower (96) Boeing 737, DC-9 @ 6080 Ft. Before Landing (97) Motorcycle @ 25 Ft. (90)	Newspaper Press (97)	90dB(A) 4 Times As Loud
90				
		Car Wash @ 20 Ft. (89) Prop Plane Flyover @ 1000 Ft. (88) Diesel Truck, 40 MPH @ 50 Ft. (84) Diesel Train, 45 MPH @ 100 Ft. (83)	Food Blender (88) Milling Machine (85) Garbage Disposal (80)	80dB(A) 2 Times As Loud
80				
	MODERATELY LOUD	High Urban Ambient Sound (80) Passenger Car, 65 MPH @ 25 Ft. (77) Freeway @ 50 Ft. from Pavement Edge, 10 AM (76 ±6)	Living Room Music (76) TV-Audio, Vacuum Cleaner (70)	70 dB(A)
70				
		Air Conditioning Unit @ 100 Ft. (60)	Cash Register @ 10 Ft. (65-70) Elec. Typewriter @ 10 Ft. (64) Dishwasher (Rinse) @ 10 Ft. (60) Conversation (60)	60dB(A) ½ As Loud
60				
	QUIET	Large Transformers @ 100 Ft. (50)		50dB(A) ¼ as Loud
50				
		Bird Calls (44) Lower Limit, Urban Ambient Sound (40)		40dB(A) 1/3 As Loud
40				
10	JUST AUDIBLE	[dB(A) Scale Interupted]		
0	THRESHOLD OF HEARING			

Source: *Melville C. Branch, et al.*, Outdoor Noise and the Metropolitan Environment, *(Los Angeles Department of City Planning, 1970), P. 2.*

In addition to its scientific definition, noise may also be defined as any sound that is annoying or which has a detrimental effect on a person's physiological and/or psychological processes. The degree of harm or annoyance produced by noise relates to the duration and intensity of sound. Increases of noises are often more annoying that a steady sound of greater intensity because one grows accustomed to a continuous sound. It is important to assess the impacts associated with noise for the following reasons:

1. Noises of sufficient intensity have caused irreversible hearing damage.

2. The effects of noise are cumulative, and, therefore, the levels and durations of noise exposure must be taken into account in any overall evaluation. This realization has been translated into legislation and local regulatory ordinances.

3. Noise can produce physiological changes and often contributes to stress-related health disorders.

4. Noise can interfere with speech and other communication.

5. Noise can be a major source of annoyance by disturbing sleep, concentration, rest, and relaxation.

6. Noise interference with work is a significant direct and indirect cost to our industrial society.

7. People often do not complain about noise, despite its adverse impact on their health and general well-being.

Acoustical Standards

The acoustical standards shown in Figure 2, which are a weighted 24-hour sound average (L_{dn}), are those recommended as beingenvironmentally acceptable for the City of Saratoga and are achievable within the findings and recommendations of this Noise Element. These standards are consistent with those of other communities similar to Saratoga. However, because of Saratoga's physical setting and the desires of the community for a quality environment based on its land use and development, it is the long range goal of the City to achieve an outdoor daytime residential standard of 55 dBA.

For the purposes of evaluating noise conditions at a specific time and place, single event noise levels should not rise more than 6 dBA above the local ambient noise level in single and multi-family residential neighborhoods; the acceptable

outdoor daytime ambient noise level in residential areas is considered to be 60 dBA. In commercial areas, single event noise levels should not rise more than 8 dBA above the local ambient noise level; the acceptable outdoor daytime noise level in commercial areas is considered to be 65 dBA. A single event noise level of 75 dBA is the maximum which should be tolerated for construction projects authorized by permits measured at the property line.

FIGURE 2

ACOUSTICAL STANDARDS
(Recommended Average Daytime L_{dn} Noise Levels)

The recommended maximum levels are based upon preventing noise interference with human activities and are well below levels which could damage hearing. The indoor standards apply to noise produced by outdoor noise sources. Residential outdoor levels should be 10 dBA lower in the evening than in the daytime.

LAND USE	STANDARDS	
	Daytime	Evening
Commercial/Office		
Outdoor	65 dBA	55 dBA
Indoor	50 dBA	40 dBA
Public/Park		
Outdoor	60 dBA	50 dBA
Indoor	50 dBA	40 dBA
Residential		
Outdoor	60 dBA	50 dBA
Indoor	45 dBA	35 dBA

THE NOISE ENVIRONMENT IN SARATOGA

Identification of Existing Noise Sources and Noise Sensitive Areas

Shown on Map 1 are the existing noise contours for highways and major arterials in Saratoga which indicate the noise exposure levels associated with these corridors. The 60 dBA contour locations indicate the acceptable point of noise exposure. This means that the ambient noise levels within these contours are within acceptable limits for the residential environment. Noise levels beyond 65 dBA are in excess of acceptable levels for residential land use. Actual conditions on each property and within residences will vary significantly due to such factors as elevation, setback, lot size, noise barriers and screening, and building construction. Daily variations in noise level occur as to time of day, weather conditions and other factors.

The noise environment along Saratoga's major streets and other locations is discussed further below:

1. Highway 9 - Highway 9, consisting of Saratoga-Los Gatos Road and Big Basin Way, is both a rural two-lane highway within its mountainous entrance into the City and a four-lane highway from the Village leading to Los Gatos. The two segments have differing noise profiles due to topography, traffic volumes, and land use. Excessive traffic noise has been recorded which adversely affects residential areas such as Mendelsohn Lane particularly where located below the elevation of the roadway. The Big Basin Way segment has the 60 dBA contour located at 76 feet from the centerline of the roadway. Los Gatos-Saratoga Road has produced the highest noise measurements with the 60 dBA contour located 407 feet from the center line in the roadway.

2. Highway 85 - Highway 85 is the current designation of Saratoga-Sunnyvale Road; it is the busiest thoroughfare in Saratoga and contains the highest concentration of commercial development. The 60 dBA contour is 298 feet from the centerline of the roadway.

The West Valley Corridor will be constructed as an extension of Highway 85 through Saratoga within the next 3-5 years. The design of this corridor was the subject of a Freeway Agreement between the City, Caltrans and Traffic Authority which was adopted by the Saratoga City Council on March 2, 1988. The agreement requires that Route 85 be developed in the following manner:

a. The freeway will have six travel lanes, two of which will be designed as commuter lanes for use only by transit buses and high occupancy vehicles during commuter hours.

b. The freeway will have a forty-six foot landscaped median which will provide for future mass transit.

c. The freeway will be depressed throughout the City except for an at-grade section between Saratoga Avenue and Saratoga Creek. This section will have extensive landscaping treatment to minimize impact on nearby properties.

d. Cox Avenue and Prospect Avenue will remainessentially at grade with the freeway being fully depressed under these two streets.

e. Saratoga Avenue will go under the freeway by use of under-pass so that no structures will be above grade in the area.

f. Quito Road will be elevated about ten feet above current grade so that the freeway can pass under it depressed about twelve feet.

g. A pedestrian overcrossing will be provided between Blue Hills School and Kevin Moran Park.

h. Extensive soundwalls will be provided throughout the length of the freeway to reduce noise. Walls will be built as early as possible during the construction process.

i. Medium and heavy trucks will not be permitted on the freeway.

j. No interchanges will be built in Saratoga.

k. The entire section of the freeway from Interstate Route 280 to State Highway 17 will be open to traffic at the same time to prevent partial openings which could divert freeway traffic onto Saratoga surface streets.

l. Funding to complete the entire project is provided by the Traffic Authority Strategic Plan.

m. Construction hours will be limited to comply with local ordinances (7:30 am to 6:00 pm in Saratoga).

The negotiated freeway design would mitigate traffic noise to acceptable noise levels (60 dbA) for residential and open space land use in Saratoga along the freeway corridor.

3. Saratoga Avenue - Saratoga Avenue is a major two to four-lane arterial leading into the City from the north. The land use along the street is predominantly residential, and it provides access to churches and schools. Should the two-lane portion from Fruitvale Avenue into the Village be improved in the future, noise mitigation measures would be required in view of residential land uses and the traffic volumes. The 60 dBA contour is at 172 feet from centerline.

4. Fruitvale Avenue - Fruitvale Avenue is a two and four-lane arterial providing access to the Civic Center, Redwood School, West Valley College and the IOOF Home. The 60 dBA contour is at 176 feet from centerline.

5. Allendale Avenue - Allendale Avenue provides a connection between Fruitvale Avenue and Quito Road. The land use is predominantly residential with the exception of West Valley College and two churches. This street is two-lanes in its easterly section. The 60 dBA contour is at 26 feet from centerline.

6. Cox Avenue - Cox Avenue is a two-lane arterial between Saratoga-Sunnyvale Road and Quito Road. Cox Avenue intersects with the Southern Pacific Railroad Line, the West Valley Corridor, and Saratoga Avenue. This residential street has its 60 dBA contour located at 87 feet from centerline.

7. Quito Road - Quito Road is an arterial street of varying improvement standards leading from Saratoga Avenue to Saratoga-Los Gatos Road. The land use is single family residential, in both suburban and rural in character. The heavier traffic portion of Quito Road shows the 60 dBA contour at 235 feet.

8. Prospect Road - Prospect Road serves as the City's northerly boundary; it is improved to four lanes and provides access to churches, shopping centers and schools, including Prospect High School. The 60 dBA contour is at 216 feet from centerline.

9. Pierce Road - Pierce Road is a designated arterial beginning at the Congress Springs Road portion of Highway 9 and terminating at Saratoga-Sunnyvale Road. Land use is low-density residential throughout its hilly location. Low traffic volumes and reduced speeds result in the 60 dBA contour at 36 feet from centerline.

10. Railroads - The Southern Pacific Rail Line consists of a spur line extending from San Jose, across Saratoga from Prospect Road in the north to Quito Road in the southeast, and terminating at the Kaiser Permanente Plant in Cupertino. One train each day is currently using the spur track. This train traverses the City on an irregular schedule ranging from 11 a.m. to 4:00 - 5:00 p.m. Southern Pacific does not anticipate a significant increase in the number of trains using the spur, particularly since only a small portion of the train's present hauling capacity is being used. The 60 dBA contour is at 57.5 feet and the 65 dBA contour at 27 feet from the centerline.

11. Airports - Aircraft flight patterns over Saratoga are generated by Moffett Field and San Jose International Airport. Aircraft noise in Saratoga is a relatively small part of the City's noise environment. In recent years, aircraft on submarine

patrol and training aircraft operating from Moffett Field Naval Air Station have routinely flown over the City on daytime training and patrol flights. Overflights of large aircraft from San Jose International Airport are at altitudes which make their noise effect noticable but not intrusive at ground level in quieter noise environments.

12. Commercial Activities - Commercial concentrations and community and neighborhood shopping centers are located on Saratoga Avenue and Saratoga-Sunnyvale Road at intersections with other arterial streets. There is also a small neighborhood center on Quito Road. Episodic noise associated with the shopping centers and commercial activities are truck unloading, trash collection, landscape maintenance (leaf blowers) and refrigeration equipment. The Village is a concentration of smaller business activities and is the historic commercial core. The main Village thoroughfare, Big Basin Way, is within acceptable limits of noise exposure (60-65 dBA) due to lower traffic volumes and vehicle speeds. However, the intersection of the three major arterials in the village finds points of exposure in excess of 70 dBA.

13. Paul Masson Site - The Paul Masson Winery complex of twenty-five acres on Saratoga Avenue is presently inactive. Future land use is likely to be a mixed development of residential and commercial uses under the Planned Development Ordinance. The potential mixed development is both a source of potential noise and a noise sensitive environment, especially considering the likelihood of a senior housing development and other residential uses. Specific attention to noise concerns should be part of the environmental review and eventual design of any future use or development.

Projected Noise Contours for the Year 2005

Map 2 shows noise contours based on projected future traffic volumes of major City streets and the development of the West Valley Corridor. Due to minimal future residential growth within Saratoga and the immediate surrounding area and the assumed traffic control measures that would maintain or reduce future peak hour traffic volumes, noise levels are not predicted to measureably increase by the target year 2005 on a City-wide basis. Construction of the West Valley Corridor is projected to stabilize traffic volumes on the City's major streets. The noise contours predicted for the Route 85 Freeway are based on the adopted Freeway Agreement.

Citywide Noise Exposure Inventory

As can readily be seen from the maps showing noise level contours, the principal existing and future noise problems in Saratoga are largely associated with the arterial street systems. Approximately 1,180 dwellings city-wide are located within the

60+ dBA contours with more than half of those units exposed to noise levels in excess of 65 dBA. Based on a household average of 3.0 persons per dwelling unit, this would mean that approximately 3,012 residents of the City of Saratoga currently are exposed to excessive noise levels in their residential environment due to the ground transportation system. This number is forecasted to be relatively constant to the year 2000 due to the predicted lower traffic volumes on the major streets and the limited potential for further residential development. An additional number of dwellings will affected by the new freeway upon its construction.

In addition to transportation-related noise, commercial activities (including shopping centers), recreation complexes and other sites of outdoor public assembly such as churches and school sites have been identified as periodic sources of noise complaints.

All residentially-zoned property in Saratoga is considered to be noise sensitive. In addition, specific types of land uses such as public and private schools, parks and open spaces, community facilities, retirement and convalescent homes and churches are considered to be noise sensitive. Listed in Figure 3 and shown on Map 3 are the facilities or sites that are included under this identification.

Public schools located near major sources of transportation noises are Blue Hills School, Redwood School, Hansen School, Saratoga High School, Prospect High School and West Valley College. Noise mitigation measures are generally provided by landscaping, open space (parking or recreation) and building setbacks. Private schools are generally located in association with church facilities and have employed similar mitigation measures. Parks within the City of Saratoga are generally located away from major thoroughfares and have not been found to be impacted by specific noise sources. Exceptions are Kevin Moran Park and Congress Springs Park which are adjacent to the future Highway 85 freeway extension.

FIGURE 3

NOISE SENSITIVE LOCATIONS

PUBLIC SCHOOLS

1. MARSHALL LANE SCHOOL
2. PROSPECT HIGH SCHOOL
3. BLUE HILLS SCHOOL
4. LAURA HANSEN SCHOOL
5. SARATOGA HIGH SCHOOL
6. EL QUITO PARK SCHOOL
7. REDWOOD JUNIOR HIGH SCHOOL
8. ARGONAUT SCHOOL
9. OAK STREET SCHOOL
10. FOOTHILL SCHOOL
11. WEST VALLEY COMMUNITY COLLEGE

PRIVATE SCHOOLS

1. SACRED HEART CATHOLIC SCHOOL
2. SAINT ANDREWS EPISCOPAL SCHOOL
3. NOTRE DAME NOVITIATE
4. PACIFIC ACADEMY
5. COUNTRY LANE MONTESSORI PRE-SCHOOL
6. NOTRE DAME MONTESSORI PRE-SCHOOL
7. UNIVERSITY PRE-SCHOOL OF SARATOGA

PARKS

1. AZULE PARK
2. BROOKGLEN PARK
3. CENTRAL PARK
4. CONGRESS SPRINGS PARK
5. EL QUITO PARK
6. FOOTHILL PARK
7. GARDINER PARK
8. HAKONE JAPANESE GARDEN
9. HISTORICAL PARK
10. KEVIN MORAN PARK
11. WILDWOOD PARK

CHURCHES

1. ASCENSION CHURCH
2. SACRED HEART CHURCH OF SARATOGA
3. FIRST CHURCH SARATOGA
4. CHURCH OF JESUS CHRIST LATTER DAY SAINTS
5. SARATOGA FEDERATED CHURCH
6. SAINT ANDREW'S EPISCOPAL CHURCH
7. IMMANUEL LUTHERAN CHURCH
8. PRINCE OF PEACE LUTHERAN CHURCH
9. SERBIAN EASTERN ORTHODOX CHURCH
10. ST. NICHOLAS ORTHODOX CHURCH
11. SARATOGA PRESBYTERIAN CHURCH
12. WESTHOPE PRESBYTERIAN CHURCH SARATOGA
13. GRACE UNITED METHODIST CHURCH
14. CONGREGATION BETH DAVID

COMMUNITY FACILITIES

1. SARATOGA CITY HALL AND COMMUNITY CENTER
2. VILLA MONTALVO
3. ARBORETUM
4. MADRONIA CEMETERY
5. SARATOGA COMMUNITY LIBRARY

SENIOR HOUSING RETIREMENT HOMES CONVALESCENT HOSPITALS

1. SARATOGA COURT
2. FELLOWSHIP PLAZA
3. ODD FELLOWS INFIRMARY
4. OUR LADY OF FATIMA VILLA
5. SARATOGA PLACE

Community Noise Complaints

Listed below are specific noise complaints that have been received by the City of Saratoga in the past three years through the Community Service Officer's program. The number of complaints and percentage by category is included:

- Barking dogs	45	(35%)
- Juvenile parties	20	(16%)
- Live band/loud music	19	(15%)
- Construction noise	12	(9.5%)
- Leaf blowers in residential zones	9	(7%)
- Noise from commercial activities	7	(5.5%)
- Other equipment noise in residential	6	(5%)
- Noise from skatebroad ramps	4	(3%)
- Birds capable of raucous outcry	5	(4%)

Other general sources of noise that have been identified in environmental impact reports and the General Plan include:

- Traffic noise on major thoroughfares
- Surplus school uses (business-institutions-recreation)
- Motorized off-road vehicles
- Tunnel effect of sound barrier walls

Noise problems and complaints currently are addressed and managed through City ordinances dealing with nuisances or specifically by the noise control portion of the Municipal Code (Article 7-30, Health and Safety.) Like many other communities, Saratoga is experiencing a sensitivity by its residents toward power landscape maintenance equipment such as lawn mowers and leaf blowers. This equipment can reach excessive decibel levels which exceeds the permitted 70 dBA between the hours of 8:00 A.M. and 8:00 P.M.

One of the problems associated with Saratoga's existing noise ordinance as it applies to power equipment is that its enforcement relies primarily on noise measurement. Power landscape equipment is usually in motion and normally is used for short periods of time. Often by the time the Community Service officer arrives at the scene, the noise has ceased or has moved to a different location. Many noise meter readings are required to obtain an accurate measurement of the sound. One solution to this problem is the adoption of additional regulations that are easier to enforce. These may include the following:

1) greater restriction on the allowable hours of operation;

2) require the use of newer, quieter equipment; and

3) restrict operations to only <u>one</u> piece of power equipment at a time.

This problem has been addressed by other communities through more restrictive hours and encouragement of the use of quieter equipment that meets the 70 dBA limitation. The City of Palo Alto has amended its noise control ordinance to allow leaf blowers to be used only between the hours of 9 a.m. and 5 p.m. Monday to Saturday and 10 a.m. to 4 p.m. on Sundays. In addition, the maximum sound level of leaf blowers must be reduced to 75 decibels by the year 1989; the present limit is 82 decibels. This issue was the subject of a recent election where it was proposed to lower the level further to the 70 decibel level which is not attainable by most gas-powered blowers. This proposal was defeated by the voters. Improved technology, lower operating levels, and restricted hours are requirements of several other communities such as Santa Cruz, Santa Barbara and Carmel. The small residential community of Belvedere has banned the use of leaf blowers entirely.

Land Use Planning Implications

Land use planning can provide an effective means of mitigating adverse noise impacts by separating noise-sensitive areas from noise sources. Expensive site-specific noise mitigation structures such as sound walls or structural soundproofing can then be avoided or minimized. In developed areas, however there is not always sufficient land to allow adequate separation of population concentrations from transportation systems, which are the major sources of noise. Site specific noise abatement measures must be taken in these instances.

Control of noise can be accomplished by controlling noise at the source, buffering the pathway of sound waves with barriers or increased distance, controlling the transmission of noise through structures, and by enclosing or protecting the receiver of noise.

Noise Reduction Techniques

Noise reduction techniques available to the City of Saratoga to achieve noise-compatible land uses fall into five categories:

--- Zoning standards
--- Other legal restrictions such as subdivision laws, building, and health codes
--- Municipal ownership or control of land
--- Financial incentives for compatible use
--- Educational and advisory municipal services

Zoning Standards

Zoning standards can be a strong local control on the type of allowable new development, but is limited in controlling existing noise problems related to land uses. The principal use of zoning standards as a noise compatibility control is the separating of incompatible uses. In addition, zoning standards can regulate specific details of development design or

construction, such as limiting building heights, and requiring buffer strips, noise barriers, and sound insulating construction. These techniques are most frequently appropriate in the design and construction of multiple family buildings located on major traffic arteries.

Physical noise reduction techniques that can be utilized fall into the four major categories shown below. These physical techniques vary widely in their noise reduction characteristics, their costs, and in their applicability to specific locations and conditions.

--- Acoustical site planning
--- Acoustical architectural design
--- Acoustical construction
--- Noise barriers

Acoustical Site Planning

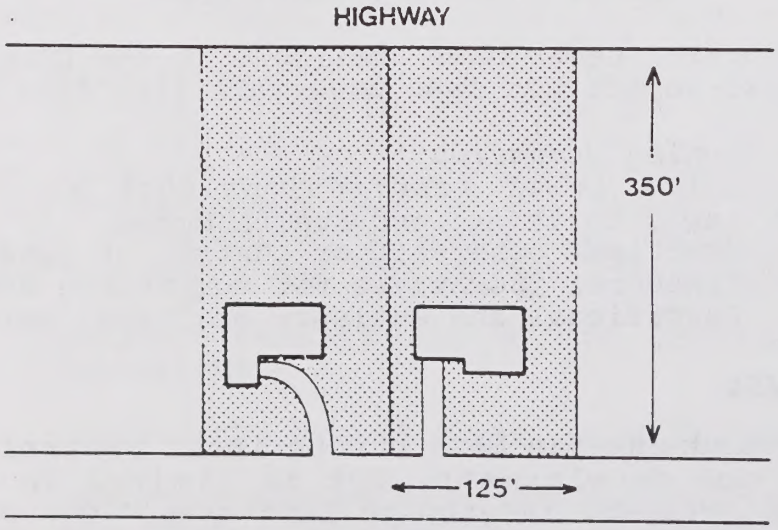
Acoustical site planning uses the arrangement of buildings on a tract of land to minimize noise impacts by capitalizing on the site's natural shape and contours. Opportunities for successful acoustical site planning are determined by the size of the lot, the terrain, and the zoning restrictions. Acoustical site planning techniques include:

1. Placing as much distance as possible between the noise source and the noise sensitive activity.

2. Placing noise-compatible activities such as parking lots, open space, and commercial facilities, between the noise source and the sensitive activity.

3. Using buildings as barriers.

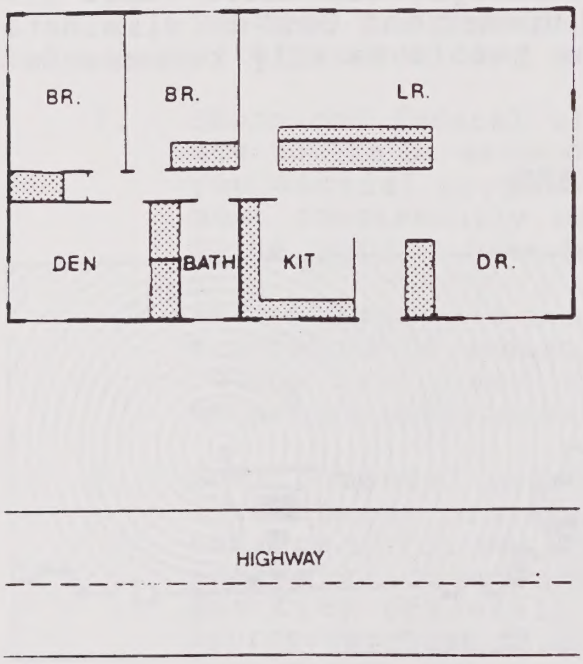
4. Orienting noise-sensitive buildings to face away from the noise source.



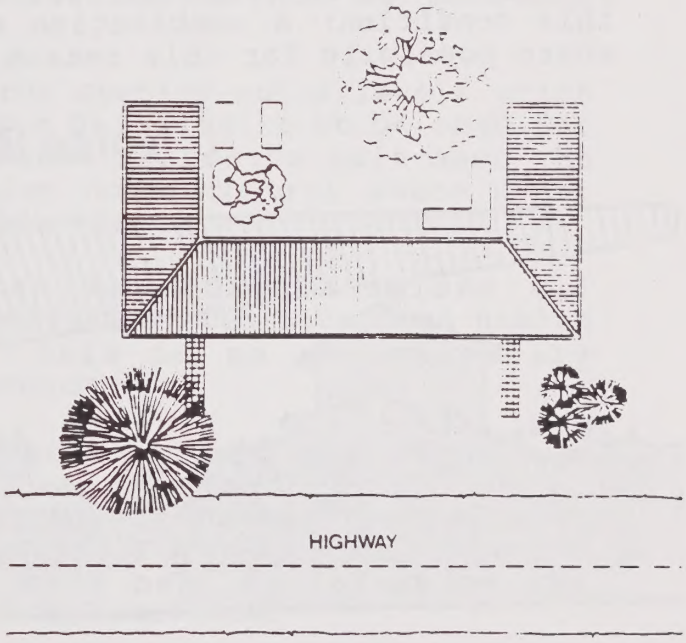
Houses placed near the front of long narrow lots have deep rear yards available to act as noise buffers

Acoustical Architectural Design

Acoustical architectural design incorporates noise-reducing concepts in the details of individual buildings. The areas of architectural concern include building height, room arrangement, window placement, and balcony and courtyard design. For example, in some cases, noise impacts can be reduced if the building is limited to one story and if bedrooms and living rooms are placed in the part of the building farthest from the noise source, while kitchens and bathrooms are placed closer to the noise source.



Use of acoustical architectural design to reduce noise impacts on more noise sensitive living space.



Use of courtyard house to obtain quiet outdoor environment.

Acoustical Construction

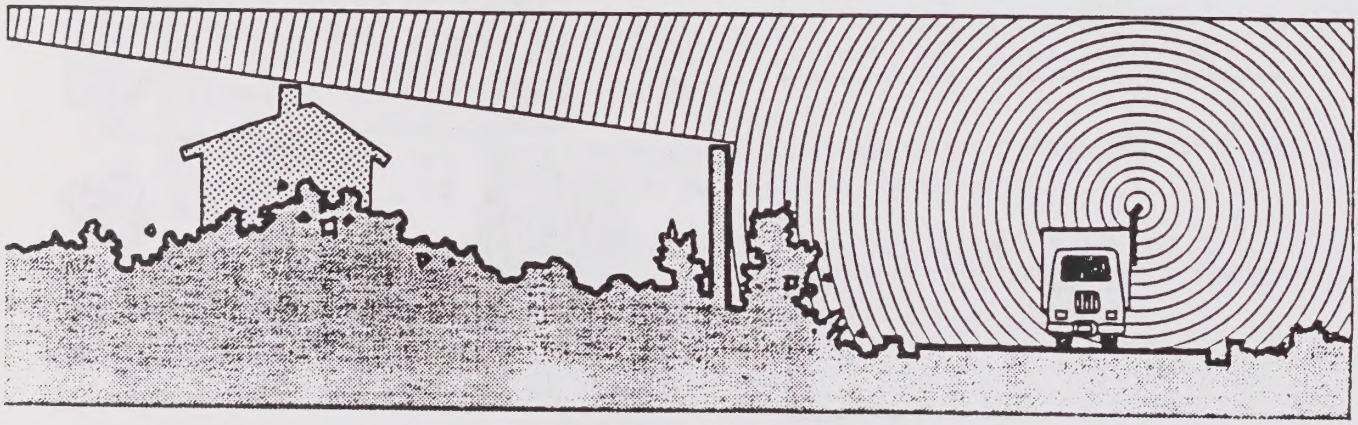
Acoustical building construction is the treatment of the various parts of a building to reduce interior noise impacts. It includes the use of walls, windows, doors, ceilings and floors that have been treated to reduce sound transmission into a building. The use of dense materials and the use of air spaces within materials are the principle noise reduction techniques behind acoustical construction. Acoustical construction can be an expensive technique, especially when added to an existing building; however, it need not be prohibitively expensive in new

construction. It is one of the most effective ways of reducing interior noise.

Noise Barriers

Noise barriers can be erected between noise sources and noise-sensitive areas. Barrier types include berms made of sloping mounds of earth, walls and fences constructed of a variety of materials, thick plantings of trees and shrubs, and combinations of these materials. The choice between these depends on a variety of factors, including the desired level of sound reduction, space, cost, safety and aesthetics. Solid wall barriers may reflect sound from one side of a highway to the other, actually increasing sound levels by 3 dBA where walls are parellel. Earth berms deflect sound upward and tend to eliminate this condition; a combination of the two is usually recommended where possibile for this reason.

Noise Barriers



A BARRIER MUST BLOCK THE "LINE OF SIGHT" BETWEEN THE HIGHEST POINT OF A NOISE SOURCE AND THE HIGHEST PART OF THE RECEIVER.

Type	Noise Reduction in Decibels
Earth Berm [1]	up to 15
Block Walls [2]	up to 15
Trees and Shrubs [3]	3 to 5

[1] The berm must be high enough to block line-of-sight situations.
[2] Block walls must be high enough to block line-of-sight situations.
[3] Trees and shrubs must be mature and at least 100 feet in depth in order to attenuate noise by 3 to 5 db.

Other Legal Controls

City ordinances other than zoning can act as noise compatible land use controls such as:

1. Subdivision or development standards can regulate details of larger developments to require acoustical site planning or to require berms and barriers. These standards often do not apply to new construction.

2. The Building Code can specify construction details such as acoustic insulation and sealed windows, or they can require that certain noise levels not be exceeded within a building.

3. State and federal standards specify noise levels which are not to be exceeded if a building is to be used for residential purposes. These standards have been the most consistently effective noise control where major noise sources have been identified.

4. An occupancy permit can be withheld unless all provisions of zoning, subdivision, building, and health codes have been met. This is an exceptionally effective enforcement mechanism.

5. Environmental impact reports can be required for new development projects. These contain a noise impact section which would require site-specific acoustical analysis. This information can act as a valuable aid for City officials who must make decisions on the appropriateness of permit applications.

Municipal Ownership

If the City or other government agency owns the noise-impacted land, it can keep the land vacant or ensure that it is developed only with noise compatible uses. Acquisition can be accomplished by several techniques, including purchase or taking by eminent domain. This can be both costly and locally unpopular. Land can be received as a gift, as a condition of subdivision approval, as a transfer from other government agencies, or in trade for other municipally owned land. Alternatively, the City can obtain, through purchase or otherwise, an easement which restricts the land without an actual transfer of ownership. This may often represent a low cost way to obtain strict land use control.

Educational and Advisory Municipal Services

Builders and developers often are unaware of noise compatibility measures which can be incorporated into a development at little cost. The City can, at very low cost, provide information to builders, developers, architectural firms, and the

public in general to generate the necessary awareness. These municipal services could include an acoustical information library or similar service as a reference source for local builders and developers. A public information effort can result in a public awareness of noise incompatibilities and their prevention.

Existing Noise Control and Enforcement Measures

The City of Saratoga, through its regulatory ordinances and code enforcement measures, contributes to the control of noise sources both directly through enforcement and indirectly through development standards and project review. Summarized below are the existing principal vehicles for noise control:

Zoning Ordinance

The Zoning Ordinance is the principal regulatory tool that controls land use by category, location, and intensity. Features related to noise are as follows:

1. Permitted land uses are prescribed by zoning district to ensure land use compatibility within and between districts.

2. Building setbacks provide for minimum distances from property lines and noise sources such as streets and highways.

The role of the zoning ordinance is described within the noise reduction techniques section of this report. Review of the zoning ordinance for additional noise related controls is recommended as a part of the policies and implementation measures of this Element.

Fences, Walls and Hedges Ordinance

This ordinance recognizes the need for noise protection along major streets. Fencing to mitigate noise from certain arterial streets (Prospect Road, Saratoga/Sunnyvale Road, Quito Road, Saratoga Avenue, Cox Avenue) can reach the maximum height of ten feet subject to the fence permit and meeting specified provisions (15-29.030). Fencing adjacent to scenic highways is subject to controls of visual appearance including landscaping but with provisions for compensating for noise impacts (15-29.040).

Noise Control Ordinance
(Article 7-30)

Specific provisions of the current ordinance are:

1. Noise levels for residential zoning districts cannot exceed 6 dBA above the local ambient noise level. (7-30.030)

2. Noise levels for commercial and industrial zoning districts cannot exceed 8 dBA above the local ambient noise level. (7-30.040)

   Exemptions to the above are that any noise source which does not produce a noise level exceeding 70dBA at a distance of twenty-five feet under its most noisy condition of use shall be exempt from the provisions of Sections 7-30.030 and 7-30.040 between the hours of 8:00 A.M. and 8:00 P.M.

3. Construction activities permitted only between the hours of 7:30 a.m. and 6:00 p.m. (7-30.060)

   (a) No individual piece of equipment shall produce a noise level exceeding 83 dBA at a distance of twenty-five feet from the source thereof.

   (b) The noise level at any point outside of the property plane of the project shall not exceed 86 dBA.

4. Amplified sound is subject to permit issued by Planning Director.

5. Excessive noise is unlawful when it disturbs the peace or quiet of any neighborhood or which causes discomfort or annoyance to any reasonable person of normal sensitivities residing in the area.

The Saratoga Noise Control Ordinance, adopted in 1972, is based on a model ordinance recommended by the State for municipalities and is similar to ordinances of other communities in respect to standards and regulations. A recommendation of this Element is to consider amending the existing noise ordinance with revised standards and regulations that address the specific noise problems of the City of Saratoga.

Truck Route Ordinance
(Article 9 - 40)

The Truck Route Ordinance contributes to both the safety and the quiet environment of the community by limiting the operation of trucks on city streets. Truck routes are also important in respect to road maintenance and need for repair.

No street or portion thereof in the City which has not been designated a "truck route" may be used by any commercial vehicle having a gross weight in excess of five tons. All streets not designated truck routes are considered to be restricted streets. "Use of a street" includes the stopping, standing or parking of a vehicle as well as driving, operating or moving of such vehicle thereon.

Designated Truck Routes within the City of Saratoga are:

--- Prospect Road from Lawrence Expressway to Saratoga Avenue and the City limits.

--- Saratoga Avenue from the intersection of State Highway 9 and State Highway 85 to the City limits.

--- State Highway 9 from the City limits at Pierce Road to the City limits at Austin Way. (9-40.030)

--- State Highway 85, from Prospect Road to Saratoga Avenue.

Off-Street Vehicle Operation Ordinance
(Article 9 - 45)

This ordinance regulates the operation of motor vehicles upon public and private property, except public streets and highways, by any person, whether or not he possesses a valid motor vehicle operator's license. This ordinance is difficult to enforce due to problems of terrain and access to private property. Specific provisions are:

1. Permit required for all vehicles not specifically exempted. (9-45.020)

2. Certification of vehicles to ensure safety and that the use will not have an adverse impact upon the environment or upon the occupants of neighboring properties. Off-road vehicles must be equipped with an adequate muffler which is capable of maintaining a sound level not greater than 83 dBA under all conditions. (9-45.090)

Existing Goals and Policies in Other General Plan Elements

The following goals and policies relating to noise currently exist in other Elements of the General Plan:

Land Use

LU.4.0 Encourage the economic viability of Saratoga's existing commercial areas and their accessibility by residents, keeping in mind the impact on the surrounding residential areas.

LU.4.1 Non-residential and industrial uses shall be buffered from other uses by methods such as setbacks, landscaping, berms and soundwalls.

LU.4.2 Non-residential development shall be confined to sites presently designated on the General Plan for non-residential use. Existing non-residential zoning shall not be expanded nor new non-residential zoning districts added.

LU.6.0 Relate new development and its land uses to presently planned street capacilities so as to avoid excessive noise, traffic, and public safety hazards. If it is determined that existing streets need to be improved to accommodate a project, such improvements shall be in place or bonded for prior to issuance of building permits.

LU.6.2. Proposed land uses and development proposals shall be evaluated against ordinance standards to assure that the related traffic, noise, light, appearance, and intensity of use have limited adverse impact on the area.

Circulation

CI 10.0 Traffic impacts that could create excessive noise, safety hazards, and air pollution shall be mitigated. The City shall use the standards established by the State of California and in effect on February 14, 1983, to determine what constitutes excessive noise, safety hazards, and air pollution until the City adopts its own standards ormore restrictive standards are adopted by the State.

Housing

The Saratoga General Plan recognizes the predominately residential nature of the community and the need for protection of the noise-sensitive environment. The Housing Element recognizes housing needs and the appropriate future locations of housing consistent with other elements of the General Plan.

Open Space

OS.3.2 The City shall review proposed interim uses of surplus school sites to determine if the impacts generated by the proposed uses will have significant adverse effects, particularly in terms of noise, traffic, and parking on adjacent residential areas.

ISSUE IDENTIFICATION AND PROPOSED GOALS, POLICIES AND IMPLEMENTATION PROGRAMS

Issue #1: Many residents of the City of Saratoga are exposed to undesired levels of noise from a variety of sources.

1.0 (Goal) To maintain or reduce noise levels in the City to assure a residential environment free from annoying and/or harmful noise. It shall be the long range objective to reduce the average daytime outdoor residential noise standard to 55dBA.

1.1 (Policy) The City shall maintain an up-to-date Noise Element.

1.1 (Imp) The City shall periodically measure and monitor noise levels at noise sensitive locations.

1.1a (Imp) The Noise Element shall be reviewed in 1994 to assess the impacts of the West Valley Freeway (Route 85).

1.2 (Policy) The City shall control specific sources of noise either through abatement or through enforcement of noise standards, and shall discourage activities, practices, or land uses that create excessive noise.

1.2 (Imp) The City should revise the Noise Ordinance to reflect appropriate noise levels and regulations for various types of power equipment, land use activities and enforcement methods.

1.3 (Policy) The City shall ensure that all services contracted or performed by the City do not cause undue noise problems.

1.3 (Imp) The City shall require that all City-owned and operated equipment and equipment operated under contract with the City contain adequate noise attenuation equipment. New purchases of equipment should be made with quiet operations given a high priority as a selection criteria.

Issue #2: The community noise environment may be detrimentally affected by land use conflicts.

2.0 (Goal) To promote and preserve land uses which are compatible with each other and with a minimal noise environment.

2.1 (Policy) Changes in land uses and development should be reviewed for noise impacts to neighboring land uses.

2.1 (Imp) Identify and require mitigation of potentially significant noise impacts through the City's environmental review process.

2.2 (Policy) Parks and recreational areas should be protected from excessive noise to permit the enjoyment of sports and other leisure time activities.

2.2 (Imp) Parks and other recreational areas which are impacted by outside noise sources should be provided with noise protection devices, including barriers and landscaping. Park design should locate passive recreation areas away from noise sources.

2.3 (Policy) New development deemed noise sensitive shall be appropriately sited and protected from adverse noise impacts.

2.3 (Imp) The City shall require all noise sensitive development adjacent to or within an area where the noise level exceeds 60 dbA Ldn to include an acoustical analysis and recommendations for reducing noise impacts to acceptable levels.

2.4 (Policy) New development that generates noise shall utilize appropriate measures to reduce noise impacts.

2.4 (Imp) The City shall require all noise-generating development to mitigate noise impacts to the adopted noise standards; acoustical analysis may be required.

Issue #3: Public awareness and education is a key ingredient in controlling unwanted noise and its effects on the quality of life in Saratoga.

3.0 (Goal) To encourage public awareness of noise hazards, and ensure public protection from harmful miscellaneous noise sources.

3.1 (Policy) The City should encourage public and private interests to devote resources to the cause of a quiet environment and its preservation.

3.1 (Imp) Commercial interests, institutions, and residential associations should involve their employees and members in efforts to reduce noise in their activities. Property improvements that would restrict noise and quieter maintenance equipment should be encouraged.

3.1a (Imp) The City should develop and distribute an educational brochure to inform the public of the general hazards of every day noise, including the

various sources inside and outside of the home, consumer advice regarding products, hearing protection techniques, etc.

Issue #4: Local and regional traffic is the major source of environmental noise within the community.

4.0 (Goal) To maintain or reduce existing noise levels generated by the ground transportation system.

4.1 (Policy) The City should participate in inter-jurisdictional efforts to minimize noise impacts associated with transportation improvements.

4.1 (Imp) The City shall continue to work with Caltrans and the Santa Clara County Traffic Authority for the inclusion of noise mitigation measures identified in transportation improvement projects.

4.2 (Policy) The City shall work with the California Department of Transportation to mitigate the effects of existing and future highway noise.

4.2 (Imp) Cooperate with and provide input to Caltrans to ensure that design plans for Highway 85 and 9 improvements incorporate noise abatement measures to reduce or maintain existing noise levels to standards acceptable to the City of Saratoga.

4.3 (Policy) The City shall consider the use of alternative transportation methods in order to reduce cumulative traffic levels and noise generation.

4.3 (Imp) Consider programs to develop mass transit, pedestrian, and bicycle facilities along rights-of-way through the use of private and/or public funds or efforts.

4.4 (Policy) The City should ensure that roads constructed or improved in the City of Saratoga be designed with careful consideration given to both long and short term noise impacts.

4.4 (Imp) The City shall consider the inclusion of noise abatement design measures in street and roadway improvement projects.

4.5 (Policy) Noise should be minimized in predominately residential areas by discouraging or prohibiting through traffic.

4.5 (Imp) Continue to describe truck routes and regulate times of operation throughout the City as necessary in order to direct truck traffic away from noise sensitive land uses.

4.6 (Policy) Traffic noise should be reduced by proper vehicle maintenance and obeyance of speed limits.

4.6 (Imp) Continue to enforce regulations relating to speed and vehicle repair.

APPENDICES

DEFINITIONS

Absorption: Absorption is a property of materials that reduces the amount of sound energy reflected. The introduction of an "absorbent" into surfaces will reduce sound pressure level by virtue of the fact that sound energy will not be totally reflected. It should be mentioned that this is an entirely different process from that of transmission loss through a material. The effect of absorption merely reduces the resultant sound level produced by energy which has already entered the room.

Acoustics: (1) The science of sound, including the generation, transmission and effects of sound waves, both audible and inaudible.

(2) The acoustics of an auditorium or of a room, the totality of those physical qualities (such as size, shape. amount of sound absorption, and amount of noise) which determine the audibility and perception of speech and music.

Ambient Noise (Background Noise): The total of all noise in a system or situation, independent of the presence of the desired (or undesired) signal.

Ambient Noise Level: The composite of noise from all sources near and far. In this context, the ambient noise level constitutes the normal or existing level of environmental noise at a given location.

Analysis: The analysis of a noise generally refers to the composition of the noise into various frequency bands, such as octaves, third-octaves, etc.

Average Daily Traffic (ADT): The total volume during a given time period in whole days greater than one day and less than one year divided by the number of days in that time period, commonly abbreviated as ADT.

Background Noise: The total of all noise in a system or situation, independent of the presence of the desired signal. In acoustical measurements, strictly speaking, the term "background noise" means electrical noise in the measurement system. However, in popular usage the term background noise is also used with the same meaning as "residual noise."

CNEL - Community Noise Equivalent Level: A noise rating scheme defined in California Administrative Code based on a process of sound energy averaging and with weighting factors applied to daytime, evening and nighttime noise exposures.

Continuous Noise: On-going noise, the intensity of which remains at a measurable level (which may vary) without interruption over an indefinite period or a specified period of time.

Daytime: Between the hours of 7:00 a.m. and 7:00 p.m. Evening: Between the hours of 7:00 p.m. and 10:00 p.m. Nighttime: Between the hours of 10:00 p.m. and 7:00 a.m.

dB (Decibel): A unit of level or logarithmic representation of magnitude when the base of the logarithm is the tenth root of ten and the quantities concerned are proportional to power, such as sound pressure squared. The logarithm to the base the tenth root of 10 is the same as ten times the logarithm to the base 10.

dBA (Decibel A Scale): Measure of decibel using the "A" scale or "A" weighted network of the sound level meter. The "A" scale is the sound measuring scale that most closely correlates with the loundness of sounds as preceived by the human ear.

Equal Noisiness Zones: Defined areas or regions of a community wherein the ambient noise levels are generally similar (within a range of 5 dB). Typically, all sites within any given noise source will be of comparable proximity to major noise sources.

Fluctuating Noise: Continuous noise whose level varies appreciably (more than ±5 dB) with time.

Frequency: The time rate of repetition of a periodic phenomenon (In cycles per second or hertz). The frequency is the reciprocal of the period.

Impulsive Noise: Noise of short duration (typically, less than one second) especially of high intensity, abrupt onset and rapid decay and often rapidly changing spectral composition.

Intrusive Noise: That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency and time of occurrence, and tonal or informational content as well as the prevailing ambient noise level.

Land Use Area: Reasonably homogenous and identifiable areas composed of similar general types of land uses such as residential, commercial or industrial districts.

L_{10} L_{50} L_{90} **Sound Level:** That sound level which is exceeded 10%, 50% or 90% of a specified period of time. For example, the L_{10} sound level for a daily period is that sound level which is exceeded for 10% of 24 hours, or for 2.4 hours. The L_{10} represents a reasonable estimate of the "intrusive" noise level, the L_{50} the "average" level and the L_{90} the "background" level.

L_{eq} - **Energy Equivalent Sound Level:** Sound level based on the average of "A" weighted sound energy or sound pressure squared for a noise exposure over a specified period of time.

L_{dn} - **Day-Night Average Sound Level:** Sound level averaged on the basis of "A" weighted sound energy or sound pressure squared for a 24 hour noise exposure including a 10 dBA weighting penalty added to sound levels for the nighttime hours.

Level: In acoustics, the level of a quantity is the logarithm of the ratio of that quantity to a reference quantity of the same kind. The base of the logarithm, the reference quantity and the kind of level must be specified.

Loudness: The intensive attribute of an auditory sensation, in terms of which sounds may be ordered on a scale extending from soft to loud. Note: Loudness depends primarily upon the sound pressure of the stimulus, but it also depends upon the frequency and wave form of the stimulus.

Noise: Any undesired sound. By extension, noise is any unwanted disturbance within a useful frequency band, such as undesired electric waves in a transmission channel or device.

Noise Exposure Contours: Lines drawn about a noise source indicating constant energy levels of noise exposure. CNEL and L_{dn} are the metrics utilized herein to describe community exposure to noise.

Noise Level: The level of noise. For airborne sound unless specified to the contrary, noise level is the weighted sound pressure level called sound level; the weighting must be indicated.

Pitch: That attribute of auditory sensation in terms of which sounds may be ordered on a scale extending from low to high. Pitch depends primarily upon the frequency of the sound stimulus, but it also depends upon the sound pressure and wave form of the stimulus.

Sound Insulation: (1) The use of structures and materials designed to reduce the transmission of sound from one room or area to another, or from the exterior to the interior of a building.
(2) The degree by which sound transmission is reduced by means of sound insulating structures and materials.

Sound Level Meter: An instrument comprised of a microphone, an amplifier, an output meter, and frequency-weighting networks, that is used for the measurement of noise and sound levels in a specified manner.

Transient Sounds: Sounds whose average properties do not remain constant in time. Examples are an aircraft flyover, a passing truck, a sonic boom.

METHODOLOGY

The Noise Element was prepared to accomplish two tasks. One was to comply with Section 65302(f) of the Government Code which states that a Noise Element is a mandatory element of a General Plan. The other task is to establish a city-wide policy document tht stipulates that the preservation of the City of Saratoga's "relatively quiet" acoustic environment is necessary and beneficial for the general health and welfare of all residents.

To accomplish both of these tasks the following methodology was utilized. During the writing of the Noise Element some parts of the methodology was emphasized more than others due to acoustical characteristics inherent to the City of Saratoga.

1. Preliminary identification of problem noise areas.
2. Collection of data on existing and proposed transportation sound sources.
3. Collection of data on general sound levels throughout the city.
4. Review of information from published sources regarding effects of sound on human activities, health, and well-being.
5. Survey of noise control regulations from other jurisdictions.
6. Preparation of standards that relate sound levels to types of land use and environmental factors.
7. Formulation of policy statements and implementation alternatives.
8. Citizen input and awareness.

REFERENCES AND BIBLIOGRAPHY

1. State of California, State Planning Law, Government Code Section 65302(f) requesting cities to have noise elements as part of the General Plan.

2. United States Environmental Protection Agency, Quieting in the House

3. Office of Noise Control, California Department of Health, Model Community Noise Control Ordinance, April 1977.

4. National Association of Home Builders, Acoustical Manual.

5. United States Environmental Protection Agency, Protective Noise Levels, Condensed Version of the EPA Levels Document.

6. Carmel By The Sea General Plan, 1984.

7. City of Monterey General Plan, 1982.

8. City of Palo Alto Comprehensive Plan, 1986.

9. Guidelines for the Preparation and Content of Noise Elements of the General Plan (Noise Control Program, California Department of Health, in coordination with the California Governor's Office of Planning and Research, Sacramento, CA), February 1976, Revised 1987.

10. The Audible Landscape: A Manual for Highway Noise and Land Use, prepared for U.S. Department of Transportation, Federal Highway Administration, Offices of Research and Development, November 1974.

11. State of California Department of Transportation, Final EIS Route 85 Transportation Corridor, 1987.

12. Santa Clara County Traffic Authority, Route-85 Corridor Study, prepared by Barton-Aschman Associates, Inc., May 1987.

13. City of Saratoga General Plan, Zoning Map and Environmental Impact Report, 1983.

14. City of Los Gatos, Noise Element to the General Plan, 1985.

15. Noise Element Technical Report, Monterey County, 1975.

16. City of San Carlos Noise Element by Edward L. Pack, Associates, 1975.

17. City of Scotts Valley General Plan, 1986.

18. City of San Jose, Horizon 2000 Plan, 1985.

HOUSING ELEMENT

AND

ENVIRONMENTAL IMPACT REPORT

Saratoga, California

Adopted May 16, 1984

HOUSING ELEMENT

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INTRODUCTION

In 1956, the City of Saratoga incorporated as a minimum service community made up primarily of low intensity residential uses with a minimum of commercial-industrial development. Even as the community has grown this philosophy has continued to be important in guiding the City's future. The community character created by this philosophy and its preservation are a major component of the General Plan and the Housing Element.

During neighborhood meetings and public hearings on the 1983 General Plan revision, residents of Saratoga expressed their desire to maintain and preserve the existing single family residential character of Saratoga. The General Plan Citizens Advisory Committee (GPAC), considering these public comments, suggested revised goals and policies for the Housing Element.

In 1980, changes in the State law under AB-2853 required more information in the Housing Element and mandated some provisions which were previously advisory. Although the legislative changes were intended to promote Statewide housing goals, the City has limited resources to meet such goals. These limits are described in this element as well as the City's strategies for encouraging housing production.

Housing needs are changing in Saratoga as they are throughout the State. Households are becoming smaller and older and housing costs continue to rise. This document should not be viewed as static since it may need to change as changes in housing needs are identified. Housing strategies shall be adopted that are compatible with Saratoga's resources.

SUMMARY - ENVIRONMENTAL IMPACT REPORT

Upon completion of an initial study (Appendix 1), as required by the California Environmental Quality Act (CEQA), it was determined that the proposed Housing Element might have a significant effect on the environment and thus must have an Environmental Impact Report (EIR) prepared. Many of the impacts and issues addressed in the EIR for the Housing Element are addressed in the General Plan EIR, which EIR is incorporated by reference.

Combining the EIR with the Housing Element allows the Housing Element, and thus the General Plan, to be modified as environmental impacts are identified and mitigation measures are developed. The public made comments on the EIR through the Housing Element public hearing process.

Section 15148 of the State EIR Guidelines requires a combined EIR/General Plan (Housing Element) to address all the points required by Article 9 of the EIR Guidelines and to identify where in the document these points are covered. The description of the environmental setting of the City is contained in the Basic Data and Background Appendix of the General Plan. The project description, for the purposes of CEQA, consists of the goals and policies of the Housing Element as well as the Implementing Action Program section. Environmental impacts, mitigation measures, and alternatives are discussed in the Environmental Assessment section of this element and the General Plan.

HOUSING ELEMENT AND STATE LAW

Since 1971, the Government Code has required each city and county to have a Housing Element as a component of its General Plan. The 1971 legislation required that this mandatory element include standards and plans for the improvement of housing, for the provision of adequate sites for housing and provision for all economic segments of the community. The first Housing Element guidelines were broad in their direction and were intended and used by local communities as a suggested approach. Housing Elements prepared under those guidelines were not specifically reviewed by the California Department of Housing and Community Development (HCD).

In November 1977, new Housing Element guidelines were adopted by the State. These guidelines were considered to be advisory as were the first guidelines. Many of these guidelines were incorporated into AB 2853 (Sections 65580-65589 of the Government Code) which was adopted by the legislature in 1980. This mandated specific contents for all local Housing Elements consistent with the State's goal of "...decent housing and a suitable living environment for every California family ....." The most important changes require each locality to specifically address regional housing needs and the housing needs of all economic segments of the community. The Association of Bay Area Governments (ABAG) was given the mandate of determining the existing and projected housing need for the communities within the region.

Although certain contents of the Housing Element have been mandated by the State, the City must determine what "efforts are required by it to contribute to the attainment of the State housing goal" as long as the determination is compatible with that goal and regional housing needs. Cities also need not expend local revenues to construct housing, subsidize housing or acquire land for housing. Therefore, the City has considerable flexibility in developing strategies to meet identified housing needs consistent with other goals of the General Plan and the "economic, environmental and fiscal factors" the City must consider.

CITIZEN PARTICIPATION

Citizen involvement with the Housing Element actually began during the General Plan revision early in 1981. There were neighborhood meetings where citizens commented on the whole General Plan and responded to a questionnaire. The General Plan Citizens Advisory Committee used those comments to prepare revised goals and policies for the plan, including the Housing Element. However, the contents of the Housing Element were not reviewed.

Thus, a new round of public hearings and exposure has been required for this rather extensive revision of the Housing Element. Public involvement has been encouraged through advertising in the local newspaper and by extensive mailings. There are two phases of noticing, one for the Planning Commission public hearings and one for the City Council public hearings. Notices have been sent to the following people:

1. Planning area representatives of the General Plan Citizens Advisory Committee.

2. Presidents of local homeowners associations.

3. Senior citizens organizations.

4. Those people who indicated an interest in participating in the last General Plan review.

5. Other interested community groups.

6. Former participants in the last Housing Element workshops.

This provides a cross section of community interests in the review of the Housing Element.

EXISTING AND PROJECTED HOUSING NEEDS

Population Characteristics

In 1980, Saratoga had a population of 29,261. This represented an increase of 111 persons since 1975. However, between 1975 and 1980 Saratoga added 1,016 dwelling units to its housing stock. In 1970 the mean household size was 3.76 and in 1980 that was reduced to 3.1.

The age composition of the City changed considerably between 1975 and 1980. The 65 year and over age group increased from 6.2% of the population to 8.2%. The 35-64 year age group made up 45.2% of Saratoga's 1980 population. Saratoga continues to become a community of adults in their middle years when earnings are at their peak and families are maturing. However, as the population ages, households become smaller.

There were 1,080 single person households in Saratoga in 1980. Of these 554 were made up of people over 60 years in age or 51.3% of all single person households. Nearly 2/3 of all single person households were made up of women.

Four elementary schools have been closed in Saratoga since the early 1970's because of decreases in the school age and the potential school-age population (0-4) . Since 1975, the 0-4 age group has decreased from 4% to 3.5% of the total population and the 5-19 age group decreased from 35.9% to 29.2%.

From 1975 to 1980, the average size of a County household declined 5.4% (2.92 reduced to 2.76). Saratoga's decline in household size was twice as rapid in the same time period--10.95% (3.76 reduced to 3.1). In 1980, there were 7,941 families out of a total of 9,295 households or 85% of all households were family households. This may change significantly as both the City and County populations age.

Population growth is expected to be limited in Saratoga for the next 20-25 years, which is the expected time of buildout. In 1982, the population of Saratoga was estimated by the Planning Department to be about 30,000. Approximately 1,020 to 1,200 households or 3,200 to 4,200 people could be added to this total by the projected time of City buildout.

With a median income of $47,700 estimated for Saratoga in 1981 (up from $41,143 in 1979) by the Santa Clara County Planning Department, it appears likely that the residents of Saratoga are more financially secure than other residents of the County. The 1981 median income is an increase of 80% over the 1974 median income of $26,455. In 1979, 22.6% of the City's households earned less than the County's median of $23,369 and 8.3% earned less than 50% of the County median income.

Employment growth is not expected to be great with only 9

TABLE I

POPULATION AND HOUSING

SANTA CLARA COUNTY AND SARATOGA

	COUNTY			SARATOGA		
	1970	1975	1980	1970	1975	1980
Total Population	1,065,313	1,169,006	1,295,071	26,810	29,150	29,261
Pop. in Households	1,041,899	1,144,324	1,267,671	26,370	28,775	28,793
Pop. in Group Qtrs.	23,414	24,682	27,400	440	395	468
Tot. Housing Units	336,873	411,480	473,523	7,140	8,515	9,531
Occupied Housing Untis	322,870	392,401	458,519	7,090	8,270	9,295
Persons/Household	3.23	2.92	2.76	3.76	3.48	3.1
% of County Pop.	100%	100%	100%	2.5%	2.5%	2.3%
% Change in Pop.	---	+9.7%	+10.8%	-	+8.7%	+0.4%

Source: ABAG - Census '80 Data Profile

TABLE 2

TOTAL POPULATION BY AGE GROUPS
MALE/FEMALE, 1980

	SANTA CLARA COUNTY				SARATOGA			
Age Groups	Male	Female	Total	%	Male	Female	Total	%
All Groups	641,443	653,628	1,295,071	100.0	14,340	14,921	29,261	100.0
0-4	45,525	43,751	89,276	6.9	525	508	1,033	3.5
5-9	46,009	44,050	90,059	7.0	908	831	1,739	5.9
10-14	54,047	51,555	105,602	8.2	1,589	1,538	3,127	10.7
15-19	63,277	61,252	124,529	9.6	1,912	1,775	3,687	12.6
20-24	68,142	65,030	133,172	10.3	912	723	1,635	5.6
25-29	64,513	61,893	126,406	9.8	492	492	984	3.4
30-34	58,487	58,657	117,144	9.0	638	798	1,436	4.9
35-44	86,177	86,817	172,994	13.3	2,328	2,782	5,110	17.5
45-54	66,488	67,131	133,619	10.3	2,471	2,422	4,893	16.7
55-59	29,544	31,346	60,890	4.7	1,018	950	1,968	6.7
60-64	21,250	23,497	44,747	3.4	662	584	1,246	4.3
65+	37,984	58,649	96,633	7.5	885	1,518	2,403	8.2

TABLE 3

HOUSEHOLDS BY SIZE OF HOUSEHOLD, 1980

	SANTA CLARA COUNTY		SARATOGA	
	No. Households	Per Cent	No. Households	Per Cent
Total	458,519	100.0	9,295	100.0
1 Person	99,917	21.8	1,080	11.6
2+ Persons	358,602	78.2	8,215	88.4

Source: ABAG - Census '80 Data Profile

TABLE 4

PERSONS 16 AND OVER

BY SEX AND LABOR FORCE STATUS, 1980

	SANTA CLARA COUNTY	SARATOGA
Total Pop. 16+ Years	981,642	22,545
Armed Forces:		
Male	5,185	20
Female	394	0
Civilian Labor Force:		
Male	391,967	8,856
Female	300,385	5,664
Employed:		
Male	375,357	8,650
Female	285,706	5,469
Unemployed:		
Male	16,610	206
Female	14,679	195
Not in Labor Force:		
Male	86,289	2,046
Female	203,001	5,979

Source: ABAG - Census '80 Data Profile

TABLE 5

HOUSEHOLDS BY HOUSEHOLD INCOME

IN 1979

	SANTA CLARA COUNTY		SARATOGA	
	No. Households	Per Cent	No. Households	Per Cent
Total	458,914	100.0	9,343	100.0
Less than $2,500	11,527	2.5	109	1.2
$2,500 - 4,999	20,400	4.4	172	1.8
$5,000 - 7,499	21,026	4.6	154	1.6
$7,500 - 9,999	23,584	5.2	214	2.3
$10,000-12,499	29,375	6.4	262	2.8
$12,500-14,999	25,382	5.5	240	2.6
$15,000-17,499	29,125	6.3	238	2.5
$17,500-19,999	27,775	6.1	241	2.6
$20,000-22,499	31,637	6.9	370	4.0
$22,500-24,999	27,660	6.0	335	3.6
$25,000-27,499	29,281	6.4	319	3.4
$27,500-29,999	23,651	5.2	291	3.1
$30,000-34,999	43,785	9.5	790	8.5
$35,000-39,999	33,190	7.2	711	7.6
$40,000-49,999	40,830	8.9	1,526	16.3
$50,000-74,999	30,745	6.7	2,160	23.1
$75,000+	9,941	2.2	1,211	13.0
Median	$23,370		$41,143	
Mean	$26,593		$46,846	

Source: AGAB - 1980 Census Area Profile

Data based on sample questionnaires used in 1980 census so total households in this chart may vary slightly from totals on other charts.

acres of light industrial land and about 30 acres of commercial land left to be developed. The Planning Department projects that about 210 basic industry jobs and 908 service industry jobs could be created between 1982 and 2005. This is based on the amount of available industrial and commercial lands, the maximum building coverage allowed, and the median square footage per employee generated by existing commercial enterprises (600 square feet per employee) and industrial uses (560 square feet per employee).

This estimated employment growth is greater than that projected in ABAG's Projections-83 which anticipated the creation of a total of 711 jobs between 1980 and 2000. The City's job estimates will change if some commercial lands are used residentially.

The great majority (93.9%) of Saratoga residents in 1980 were classified as White. Minority groups include Chinese (1.7%), Japanese (1.7%), Black (0.3%), Filipino (0.3%), and American Indian (0.2%), and 805 people (2.8%) identified as of Spanish origin are spread throughout the White, Black and other racial categories. The community's racial composition has been stable since 1970 and is not likely to change since population growth is expected to be slow.

Housing Characteristics

In 1982, approximately 90.3% of Saratoga's housing stock was in single-family units. Seven per cent of the housing stock was in multi-family condominium units. Multi-family rental units made up only 2.7% of the housing stock. Multi-family units including condominiums increased from about 7% of the housing stock in 1978 to almost 10% of the housing stock in 1982. In the same time period, the number of multi-family units available for rent increased 185% from 92 units to about 263 units.[1] There are an additional 24 units rented to senior citizens in the Saratoga Parkside condominium project which are bound by use permit to remain as rentals until 1991. This reflects the City's effort to bring more balance to its housing stock.

Saratoga had about 9,740 dwelling units in 1982, 56% of which were built before 1965. In 1970, the percentage of units built before 1965 was 78%. this means that, in an overall sense, the City's housing stock is getting "newer". In 1979, it was estimated that 1,045 units were over 30 years old.

The 1980 census measured Saratoga's vacancy rate at about 2.5%. The vacancy rate among all rental units, including single family dwellings, was about 3.2% and was about 1% for all owner occupied units. In March 1982, a City survey required by the Condominium Conversion Ordinance revealed only a 0.7% vacancy rate among rental apartments.

In 1980, 2.3% of the residents of Santa Clara County lived in Saratoga. Saratoga's housing stock was 2.08% of the County's total housing stock which is less than the City's proportion of

TABLE 6

HOUSEHOLD POPULATION BY

RACE/ETHNICITY, 1980

	SANTA CLARA COUNTY		SARATOGA	
	No. People	Percentage	No. People	Percentage
Total	1,295,071	100.0	29,261	100.0
Caucasian/White	1,017,854	78.6	27,473	93.9
Black	43,716	3.4	79	0.3
Japanese	21,907	1.7	491	1.7
Chinese	22,891	1.8	496	1.7
Filipino	27,444	2.1	75	0.3
American Indian	8,312	0.6	58	0.2
Other[2]	129,462	10.0	339	1.1

Source: ABAG - Census '80 Data Profile

[1]Data from ABAG did not use separate categories for Spanish speaking ethnic groups. There are 226,611 (17.5%) people of Spanish/Latin origin spread throughout the racial/ethnic categories listed above in the county and 805 (2.8%) people of Spanish/Latin origin in Saratoga.

[2]The "Other" category includes Pacific Islanders, Eskimos and Aleuts.

TABLE 7

HOUSING UNITS AT ADDRESS
BY TYPE OF STRUCTURE, 1980

	SANTA CLARA COUNTY		SARATOGA	
	No. Units	Percentage	No. Units	Percentage
Total	473,523	100.0	9,531	100.0
1 Unit[1]	340,614	71.9	9,020	94.6
2-9 Units	55,302	11.7	263	2.8
10+ Units	60,768	12.8	244	2.6
Other	16,839	3.6	0	0

Source: ABAG - Census '80 Data Profile

[1]Includes some condominium units and mobile homes

TABLE 8

HOUSING UNITS BY TENURE
AND VACANCY STATUS, 1980

	SANTA CLARA COUNTY		SARATOGA	
	NO. UNITS	PERCENTAGE	NO. UNITS	PERCENTAGE
Total Units	473,523	100.0	9,531	100.0
Total Occupied	458,519	96.8	9,295	97.5
Owner	273,561		8,335	
Renter	184,958		960	
Total Vacant	9,965	2.1	116	1.2
For Sale	3,739		85	
For Rent	6,226		31	
Other[1]	5,039	1.1	120	1.3

Source: ABAG - Census '80 Data Profile

[1]Includes units under construction or unknown units

the County's population (2.3%). This reflects the larger family size of households in Saratoga compared with the County. In 1975, 7.4% of the households in the City were single person households. This increased to 11.6% in 1980 which was due in part to an increase in senior citizen housing units. This increase is indicative of the attempts to meet the needs of Saratoga senior citizens.

Although household size has been decreasing in Saratoga since 1970, housing costs have been increasing rapidly. The 1970 median value for a detached single-family dwelling was $46,400. This rose 399% to about $231,600[2] in 1980. Median household income on the other hand rose only 119% from $18,708 in 1970 to $41,143 in 1980. In other words, housing costs increased over three times as fast as income in Saratoga between 1970 and 1980. These increases are particularly significant since Saratoga's 1979 median income was nearly double the County's 1979 median income ($23,370).

Land values in Saratoga can range from $250,000 to $500,000 per acre. These high values make it impractical for developers to use this land for low or moderate income housing.

Existing houses have experienced a percentage increase in value since 1975 which has surpassed the increase in value of new homes in the same time period. Thus, this source of lower cost housing for first time buyers or those with moderate incomes is no longer available.

Data from the 1980 Census indicates that 40.8% of the owner occupied, non-condominium and renter households in Saratoga were overpaying for housing. (Overpaying is defined as paying more than 25% of a household's gross monthly income for housing.) Approximately 28% of all non-condominium homeowners overpaid and approximately 54% of all renters overpaid in Saratoga in 1980. Table 9 describes the number of low income households spending more than 25% of their income on housing.

Census data from 1980 indicates that rental costs in Saratoga have increased significantly since 1975. Median rent increased 33% from about $284 in 1975 to $378 in 1980. The mean rental cost for vacant rental units was $445 in 1980. About 9.8% of the renter households paid more than $400/month for housing in 1975 but in 1980 this increased to 42.3%. Saratoga's median rent was 22.7% higher than the County's and Saratoga's mean rent for vacant units was 33.8% higher than the County's. these numbers, combined with the fact that the mean income of rental households in Saratoga in 1980 was $20,725, indicates that most renters in Saratoga would pay more than 25% of their income to live in one of the available vacant rental units.

Income Deficiencies

The 1980 Census defined poverty level as an annual income of $3,479 for single persons 65 years old and older, $3,774 for

TABLE 9

ESTIMATE OF LOW INCOME[6] HOUSEHOLDS SPENDING 25% OR MORE OF THEIR INCOME ON HOUSING COST[1]

	Very Low Income ($11,685 or less)[2]	(%)[3]	Low Income ($11,686-$18,696)[2]	(%)[4]	Total
Owner Occupied	310	40%	239	37%	549
Renter Occupied	258	43%	136	28%	394
	568	83%	375	65%	943[5]

1. Estimated from 1980 census data (ABAG - 1980 Census Area Profiles

2. Annual Income

3. Percent of Very Low Income Households spending 25% or more of their income on housing.

4. Percent of Low Income Households spending 25% or more of their income on housing.

5. This represents about 67% of all Very Low and Low Income Househol in Saratoga in 1980.

6. ABAG's Census Handbook defines "Total Income" as the ".....sum of amounts reported separately for income from wages and salaries Non-farm self-employment, Farm self-employment; Interest; Dividen and Net Rental; Social Security; Public Assistance; and all other sources."

TABLE 10

HOUSEHOLDS BY MONTHLY COST OF RENTAL

SHELTER, 1975/1980 - SARATOGA

	No. 1975 Households	Per Cent	No. 1980 Households	Per Cent
Less than $100	27	4.5	92	9.6
$100-149	60	10.0	67	7.0
$150-199	70	11.7	72	7.5
$200-249	81	13.5	50	5.2
$250-299	65	10.8	55	5.7
$300-399	109	18.2	125	13.0
$400-499	29	4.8	156	16.3
$500 or more	30	5.0	250	26.0
No cash rent	17	2.8	59	6.2
Unknown	112	18.7	34	3.5
TOTAL	600	100.0	960	100.0

1975 Median Rent $284 ± 10

1980 Median Rent $378

single persons under 65 years old and $7,412 for a family of four. Tables 11 and 12 summarize the data on below poverty households in Saratoga. 172 households were receiving public assistance as a source of income.

In 1980 there were 12 Saratoga residents who had been given Section 8 Housing Assistance Certificates which enable them to seek suitable units to rent. There was one Section 8 rent subsidy family located in Saratoga.

There are now 170 units of Section 8 subsidized housing for the elderly, 20 in Saratoga Court and 150 in Fellowship Plaza (sponsored by the California Odd Fellows Foundation). Both developments have waiting lists.

Housing Stock Condition

Because of the emphasis placed on the physical conditions of the existing housing stock by Federal agencies dispersing housing grant funds, physical condition has become an important criteria in evaluating a community's housing need. Since Saratoga experienced most of its growth in one or two spurts of development, a close watch should be kept on how this simultaneously-aging stock is standing the test of time and new codes.

A windshield housing condition survey evaluating the exterior condition of units was completed in May 1979 by the City planning staff. Structures were categorized based on the extent of visible problems.[3] The survey identified 98 structures with minor structural deficiences, 66 with major structural failures and 6 in a state of extreme dilapidation. Units with minor and major deficiences are candidates for rehabilitation unless the cost of repair exceeds 50% of the value of the unit. The units are generally clustered within the community as follows:

Planning Area	Number of Units
Area B (Elva-Paul-Springer)	53
Areas F & L (Quito-Kentfield)	46
Area J (The Village)	31
Remainder of City	34

Of the substandard units, 33 percent were judged to be over 50 years old and 61 percent between 25 and 50 years. Just less than half (48.5 percent) of the substandard units were owner-occupied.

Census data from 1980 indicates that 19 units (8 rentals) lacked complete plumbing (hot and cold running water, flush toilet, and shower or bathtub) for exclusive use by the household. Forty-nine persons live in these households. Only 2 units (10 people) lacked complete plumbing for exclusive use and had more than 1 person per room (i.e. in an overcrowded state).

TABLE 11

BELOW POVERTY LEVEL HOUSEHOLDS IN SARATOGA, 1980[1]

	Single Person Households	Family[2] Households
Head of Household under 65 years old	47	73
Head of Household 65 years old or over	70	37
	117	110

1. ABAG - 1980 Census Area Profiles
2. Includes 61 families with children

TABLE 12

PERSONS BELOW POVERTY LEVEL HOUSEHOLDS BY AGE, 1980[1]

Under 55 years	439
55 to 59 years	10
60 to 64 years	56
65 + years	132
	637[2]

1. ABAG - 1980 Census Area Profiles
2. Racial Breakdown: 95% white, 3% Asian or Pacific Islander, 2% Black

TABLE 13

HOUSEHOLDS BY MONTHLY COST OF RENTAL SHELTER,

1980 - SANTA CLARA COUNTY

	No. 1980 Households	Per Cent
Less than $100	4,168	2.3
$100 - 149	5,790	3.1
$150 - 199	14,432	7.8
$200 - 249	24,827	13.4
$250 - 299	35,113	19.0
$300 - 399	53,812	29.1
$500 - 499	25,962	14.0
$500 or more	13,635	7.4
No cash rent	2,728	1.5
Unknown	4,491	2.4
TOTAL	184,958	100.0

Median Rent - $ 308.00

Share of Regional Housing Needs - ABAG

Section 65584 of the Government Code requires Councils of Governments (C.O.G.) to determine each locality's share of the housing required to meet regional goals for all income groups. The Association of Bay Area Governments (ABAG) is the C.O.G. responsible for determining Saratoga's housing needs. In determining housing needs ABAG had to use available data and consider market demand for housing, employment opportunities, the availability of suitable sites and public facilities, commuting patterns, type and tenure of housing need, and the housing needs of farmworkers. In December 1981 ABAG submitted its Housing Needs Determination Report for local government review. They were to indicate by resolution that the numbers determined by ABAG were acceptable or indicate that a revision of the numbers was necessary based on more accurate or reliable data.

ABAG initially projected that Saratoga would need 469 housing units by 1985. The City suggested that the number be revised based on two points:

1. Projections were made using 1970 census data when more recent 1975 Special Census Data was available.

2. ABAG had assumed the land use policies in effect in 1975-76 were still in effect in 1980-81. The adoption a voter initiative known as Measure A and the subsequent Specific Plan reduced density in the western hillsides 40-45% which impacted ABAG's calculations.

City staff discussed these points with ABAG staff and it was agreed that Saratoga's housing need number be reduced from 469 units to 285 units. The City Council approved Resolution No. 1068 revising the housing need number to 285 on March 17, 1982 and forwarded it to ABAG.

ABAG's legal counsel reviewed Saratoga's proposed revision and indicated that revisions based on voter-adopted restrictions on growth, such as Measure A, could not be accepted. The reasons given for not accepting the revision were:

1. State law does not specifically include self-imposed limitations on local growth among the criteria for determination of the regional housing need.

2. Consideration of such constraints is required in the Housing Element when it is being adopted by the City.

This meant that the housing need number could only be reduced based on data in the 1975 Special Census done by the County. When the 1975 data was used in ABAG's formulas Saratoga's housing need number was reduced by 11 to 458. However, ABAG staff indicated that Saratoga could take credit for the 200 units in Sunland Park, which were annexed to the City in 1981, since

the City would be providing urban services to this area rather than San Jose which freed them to build more units. On May 11, 1982, the City Council adopted a Resolution No. 1068.1 which revised the housing need number to 458 and indicated that the 200 units in Sunland Park should be credited to the City.

In July of 1983 ABAG submitted a revised housing need determination report which estimated housing need from 1980 to 1990 to be a total of 1,073 units. The City adopted a resolution (Res. No. 2097) in October 1983 requesting that the total need be revised downward. This proposed revision was based on three major factors:

1. The rate of production required to meet the projected need was unrealistic considering existing rates of production and market factors.

2. ABAG had incorrectly included Williamson Act Lands as lands available for development prior to 1990.

3. Environmental constraints significantly affect the amount of housing that can be produced in Saratoga particularly in the Northwestern Hillsides.

After reviewing Saratoga's revision request ABAG rejected it, indicating Williamson Act Land had been correctly considered.

About 138 units have been built in Saratoga since 1980 and, as in the previous housing need determination, Saratoga should be credited with the 200 units in Sunland Park which were annexed in 1981. This reduces Saratoga's total housing need as projected by ABAG to 735 units.

The City will not be able to accommodate these 735 units of unmet need by 1990 because of economic factors that are beyond the control of the City (i.e., land costs, financing costs, and construction costs). There are also environmental constraints affecting most of the City's vacant land. These factors combined have created a very low rate of housing production. The number of units constructed in 1982 and 1983 were 11 units and 15 units respectively. Thus, Saratoga cannot reasonably commit itself to meeting the housing need projected by ABAG.

Distribution of Housing Need by Income

ABAG is required by State Law to determine how the total housing need projected should be distributed among income groups within Saratoga. The July 1983 version of the Housing Needs Determination Report projected the income distribution of housing need, using annual household income, as follows:

FIGURE 1

1980-1990 Total Projected Housing Need	Very Low Income (11,685 or less)[1]	Low Income (11,686-18,696)	Moderate Income (18,697-28,044)	Above Mod. (28,0
1,073	172	139	193	569

In 1980 7% of the households in Saratoga were very low income, 7% were low income households, and 11% were moderate income households. If all the needed housing units are built by 1990, using the distribution level projected by ABAG, then Saratoga would have 7.9% of its households in the very low income category, 7.6% in the low income category, and 11.7% in the moderate income category.

As indicated previously, 138 units have been built in Saratoga since 1980 ard 200 units were added to the City's housing stock when Sunland Park was annexed. These units partially met the City's projected need for housing at various income levels. If these units are subtracted from the numbers in Figure 1, the following distribution results (also see the Sunland Park Survey on Page 24):

FIGURE 2

1980-1990 Total Projected Housing Need	Very Low Income	Low Income	Moderate Income	Above Mod. Inc.
735	142	105	123	365

Rental Units and Demolition

About 7.5% of the units in Saratoga were rental units in 1975. The 1980 census indicated that 10.4% of the units in Saratoga were rented. To maintain this percentage about 46 rental units will need to be added to the housing stock by 1985. However, it is also expected that about 20 units (both renter and owner occupied) will be demolished by 1985 and ~~should~~ will be replaced in the housing stock. This is based on an average annual demolition rate of 4 units per year and projecting from 1980.

Sunland Park Survey

In May 1983, an income and household size survey was conducted by the City of Saratoga with the assistance of the Sunland Park Homeowners Association for the Sunland Park area. The results of that survey was to determine how many low and moderate income households were made part of the City when Sunland Park was annexed. Those households may be counted by the City towards the fulfillment of the housing need determination made by ABAG.

Sunland Park has about 19 households, out of the 128 that responded to the survey, which would qualify as very low income households as categorized in Figure 1. Approximately 22 households would fit in the category of low income and 45 households would be considered moderate income.

TABLE 14 SUNLAND PARK SURVEY OF ANNUAL INCOME AND HOUSEHOLD SIZE, 1983

Household (HH) Size	ANNUAL INCOME: Less than $10,000	$10,000-$17,499	$17,500-$24,999	$25,000-$34,999	$35,000-$50,000	$50,000 or more
1 person	2	1	1	2	4	0
2 persons	2	10	9	12	17	6
3 persons	1	2	1	6	10	10
4 persons	-	1	0	12	11	0
5+ persons	0	0	1	3	3	1
Total No. of HH Responding	5	14	12	35	45	17
% of HH Responding	3.9	10.9	9.4	27.3	35.2	13.3

Source: Sunland Park Survey, City of Saratoga, Planning and Policy Analysis Department

The distribution described in the paragraph above only pertains to the 128 households that responded to the survey. This represents 64% of the total (200) number of housing units in Sunland Park. If the proportions described in the paragraph above were applied to all 200 units, the distribution would be: 30 very low income households, 34 low income households, and 70 moderate income households.

In its review of Saratoga's Draft Housing Element dated June 14, 1983, the State indicated that the income distribution for Sunland Park should be recalculated using the current County median income rather than the projected 1985 County median income. The City has chosen to use the projected 1985 County median income (estimated by ABAG in 1981) since that date will be closer to the actual adoption and implementation of this element than the 1981 annexation of Sunland Park. This income distribution seems to reflect the existing situation in Sunland Park. The projected 1985 median income for Santa Clara County is about $34,772.

Special Housing Needs

Senior citizens were identified as a group with special housing needs in the Senior Citizens Housing Needs Analysis Report (SCHNAR) (a City sponsored report) completed in 1977. That report indicated that by 1980, about 500 senior citizens would need various types of housing based on 1975 census data. The task force report estimated that 9% of the people in Saratoga would be 60+ years of age by 1980. The 1980 census shows that actually 12.5% of the people in Saratoga were 60+ years of age. Saratoga's population has become and is becoming significantly older and the housing needs of senior citizens have increased.

Since 1977, a 150 unit HUD financed senior citizen rental complex has been built on the site of the Saratoga IOOF home. The City adopted a Planned Residential Development Ordinance to encourage more senior citizen housing. A 72 unit senior citizen (defined as 55+ years for that project) complex (including 24 rental units for a period of 10 years) was built. The rental units were filled quickly which indicates that demand for rental units by seniors is high.

The SCHNAR identified two different groups of seniors needing some sort of alternative housing: 1) seniors forced to leave Saratoga because of an inadequate supply of affordable housing and increasing economic pressure; 2) seniors who owned homes that were considered "overhoused" and had to remain in that situation since there were no alternative housing types available.

The report prioritized the housing types and styles that would meet the housing needs of seniors as follows:

1. Rental - Apartment/Duplexes
2. Retirement Inn/Hotel

Other alternatives were identified as Senior Citizen Community, Condominium/Townhouse, Residential Care Facility, and single-family residences that are part of a planned community development project.

The report estimated that in 1976 from 20 to 50 seniors were in need of less expensive housing (i.e. these people were paying more than 25% of their income toward shelter costs). Another 30-100 seniors in 1976 were identified as needing some financial assistance, particularly in terms of property taxes, or lower cost housing. The problem of property taxes may have been alleviated by the passage of Proposition 13. The report underestimated the rise in housing values in Saratoga and that need could have been significantly underestimated. Most of these households are likely to be made up of elderly women on fixed incomes which could have more serious financial problems than their male counterparts.

Prior to 1977, 20 units of subsidized housing for senior citizens was already in existence (Saratoga Court). Of 93 rental apartments (non-subsized) 25%[5] were rented by senior citizens. In 1981, 41% of the City's condominium units were occupied by households where at least one member was 60 years of age or older. The following group quarters have provided housing for seniors: Odd Fellows Home of California - capacity 200, Westmoreland Convalescent Hospital - capacity 17, and our Lady of Fatima - capacity 85.

Large Families and the Handicapped

When the State reviewed the City's Draft Housing Element it requested an analysis of the special housing needs of large families and the handicapped. There were 52 units in Saratoga which could be considered overcrowded (1.01 person/room). This represents less than 0.6% of all the City's households. Regardless of family size, overcrowding is not a significant problem in Saratoga.

A large family is defined as 5 or more persons. In 1980 there were 1,526[6] households of 5 or more personsin Saratoga. Of these, 66 units were renter occupied. Since renters, in general, have lower incomes than homeowners, renters with large families may find it difficult to afford the larger housing units they need. Fifteen of the 52 overcrowded units mentioned above were renter occupied.

There is no specific data currently available to the City which relates household size to overcrowding so any housing need for large families in Saratoga can only be estimated. Overcrowded households are a very small proportion of all the households in Saratoga, so the needs of large families are being met. It should be noted that the mean number of rooms in units available for year round occupancy is 7.23 units. House sizes in Saratoga are sufficient to meet the needs of large families.

No data on households with handicapped persons has been available to the City.

RESOURCES AND CONSTRAINTS

Vacant and Partially Developed Land

Approximately 1,142 acres or about 15% of Saratoga's land area is vacant and another 454 acres are partially developed (i.e., could be more densely developed). These lands are broken down in Tables 15, 16 and 17 by current use and zoning. 427 acres (191 dwelling units) of the City's vacant lands have final subdivision or building site approval. Of the partially developed lands, about 62 acres (29 dwelling units) also have final subdivision or building site approval. A total of about 178 acres of vacant and partially developed land is under Williamson Act contract and will not be available for development in the near future.

Total vacant land available for further residential development (not already approved) is 518 acres and total partially developed land available is about 301 acres. 445 acres of this vacant land are contained in hillside areas primarily designated slope conservation in the General Plan. These areas are characterized by steep topography, some drainage problems, limited circulation and have the highest potential for landslides and other geotechnical problems. The remaining 73 vacant acres are located in the flatter portions of the City which are easier to develop and have better access to urban services. About 212 acres of the partially developed lands are in steep hillside areas or are marginal lands with potential flooding problems, poor access, or high development costs. These areas will only be able to support lower density types of development. This leaves about 89 acres of partially developed land that would be easier to develop.

If all the existing vacant and partially developed parcels residentially zoned were to be developed, the total number of new dwellings that could be constructed, at present allowed densities, would be about 950. This would increase to about 1,050 units if Williamson Act lands are included. This number could be further supplemented by commercial lands.

Saratoga has sufficient vacant or partially developed land designated for residential development to accommodate the City's total housing need as projected by ABAG for 1990.

Tables 16 and 17 illustrate how vacant and partially developed lands are broken down by zoning district. These tables show that most of Saratoga's vacant land is in the NHR and HC-RD zoning districts which cover most of the City's hillside areas. These are areas that are environmentally and geologically sensitive, lack urban services, and are generally difficult to develop. The densities allowed in these two zoning districts are low because of these constraints.

TABLE 15
VACANT AND PARTIALLY DEVELOPED
LAND IN SARATOGA, 1982

VACANT LAND	ACREAGE
I. Commercial/Industrial Land	40 Ac
II. State Right-of-Way	20 Ac
III. Open Space Land	41 Ac
IV. Residential Land under Williamson Act Contract[1]	96 Ac
V. Residential Land with Final Building Site or Subdivision Approval	427 Ac
VI. Remaining Residential Land	
A. Residential Land with Significant Physical Constraints (i.e., hillside lands and flood plains)	445 Ac
B. Residential Land with Few Constraints	73 Ac
Total Vacant Land	1142 Ac

PARTIALLY DEVELOPED LAND	
I. Commercial Land	9 Ac
II. Residential Land under Williamson Act Contract[1]	82 Ac
III. Residential Land with Final Building Site or Subdivision Approval	62 Ac
IV. Remaining Residential Land	
A. Residential Land with Significant Physical Constraints	212 Ac
B. Residential Land with Few Constraints	89 Ac
Total Partially Developed Land	454 Ac

[1]Includes future residential lands designated on the General Plan Land Use Map. These lands will not be available for development prior to 1994.

TABLE 16
VACANT LAND BY ZONING DISTRICT
IN SARATOGA[1] - 1983

ZONE	ACRES	DU/AC[2]	YIELD
Residential			
NHR	704	0.1-0.5	311
HC-RD	80	0.1-0.5	39
R-1-40,000	115	1.1	93
R-1-20,000	14	2.2	23
R-1-15,000	1	2.9	3
R-1-12,500	12	3.5	32
R-1-10,000	15	4.3	50
R-M-5000 PC	3	8.7	22
Total	944		573
Commercial/Industrial			
M	9	N/A	N/A
P-A	23	14.5	279-315
C-N	5	14.5	57
C-V	3	14.5	30-39
Total	40		366-411
Open Space[3,4]			
A	41	0.2	6
NHR	96	0.1-0.5	40
Total	137		46
Right-of-Way			
A	8	0.2	2
R-1-10,000	7	4.3	22
R-1-12,500	5	3.5	15
Total	20		39

[1]Does not include land in the County within City's urban service area.
[2]Dwelling units per acre.
[3]Does not include park lands.
[4]Includes future residential lands as designated on the General Plan Land Use Map. These lands will not be available for development prior to 1994.

TABLE 17

PARTIALLY DEVELOPED LAND BY ZONING DISTRICT IN SARATOGA - 1983

RESIDENTIAL LAND			
Zone	Acres	Max. Density	Additional DU Yield
NHR[1]	120	.1-.5 DU/AC	48
R-1-40,000	218	1.1 DU/AC	142
R-1-20,000	41	2.2 DU/AC	56
R-1-15,000	4	2.9 DU/AC	4
R-1-12,500	31	3.5 DU/AC	73
R-1-10,000	31	4.3 DU/AC	98
Total	445		421
COMMERCIAL LAND			
C-N	5.5	-	-
C-V	3.5	-	-
Total	9.0		

[1]Includes 82 acres of Williamson Act lands representing about 30 DU.

A key item to be noted in Table 16 is the potential residential yield of the City's commercial lands. Currently, the City allows multi-family residential use in its commercial districts through the conditional use permit process. If these lands were to be used residentially, or in a mixed use combination, a significant contribution to meeting the City's housing need could be made. The use of these commercial lands will depend on the changing economic situation and the individual decisions of the property owners involved.

Available Public Facilities and Services

Most of the vacant land in the City is located in hillside areas. These areas tend to be further away from urban services, have limited access, and have geological and other environmental constraints on development. The Northwestern Hillsides Specific Plan (where most of the vacant hillside land is located) calls for the formation of a water assessment district before further development can occur in some of the areas covered by the plan for adequate fire protection. New sewer and storm drainage systems will be required for development in the hillsides. Control of runoff is especially critical in hillside areas to prevent erosion and flooding.

Circulation is also a significant problem in hillside areas. Currently there is only one arterial (Pierce Road) to serve the entire Northwestern Hillsides and few collectors. Pierce Road road is narrow and needs improvements. The Specific Plan for the area calls for a new arterial road to serve a portion of the area as well as other improvements to circulation especially for emergency access. However, funding is not yet available for the construction of this road and other improvements. Public transportation is not available in hillside areas.

Only 73 acres of the vacant lands without previous tentative map approvals in the City do not have the urban service constraints characteristic of the hillside areas. Most of the parcels in that group are already surrounded by existing development and could be classified as infill lands. Providing services to these parcels would be relatively easy since they are close to existing utility systems and would require only minimal extension of such systems. Police and fire protection and access to schools are easier for these parcels than hillside areas since the distances to be covered by emergency or public vehicles is significantly less. These infill parcels are also better served by public transportation since many of them are within walking distance of a bus route.

Of the partially developed lands without previous tentative map approval available, about 50 acres are in hillside areas with the same constraints as vacant lands in hillside areas. Another 162 acres could be considered marginal lands that have poor access, difficult topography, are subject to flooding or are otherwise difficult to develop. The remaining 89 acres are infill parcels which are in the same situation as the vacant

infill parcels in terms of the availability of urban services.

Governmental Constraints

One governmental constraint on producing housing in Saratoga is the low densities that are permitted in the City's General Plan and Zoning Ordinance. In particular, when the City adopted the Northwestern Hillsides Specific Plan, as mandated by the voters, the density allowed in that area was reduced from a maximum density of .91 dwelling units/acre to a maximum of .5 dwelling units/acre. Prior to adoption of the Specific Plan, there were two moratoria, each of one year duration, that prevented development in the Northwestern Hillsides until the plan and its implementing ordinances were completed. This played a significant role in reducing the amount of housing Saratoga produced from 1980-1982.

The density reduction and other changes were approved by the residents when they adopted Measure A in April 1980. The Specific Plan addressed the issues in Measure A which indicated that density should be reduced for environmental reasons. These reasons included: actual and potential geological hazards, the traffic impacts on the single arterial in the area (Pierce Road), the cost of providing public services and facilities, and the potential aesthetic impacts. Therefore, lower densities are appropriate based on the environmental constraints in hillside areas.

The City's southern hillside areas have similar development constraints. The Sargent-Barrocal fault may act as a constraint on development in the southern hillsides particularly in conjunction with other geological hazards. The Monte Vista fault, which is considered potentially active by the U.S.G.S., could be a constraint on development. This fault has been partially mapped in the northern section of the City.

Concern has also been expressed that higher densities or intensities of residential development will strain the planned capacity of city streets. The General Plan EIR states that: "Traffic impacts are significant primarily in a regional sense since Saratoga will be contributing to the traffic congestion of the region but it may also be significant to specific neighborhoods." As an example, Quito Road was identified as being at Service Level "E" which means further traffic additions would exceed its capacity without further improvements. Also, Saratoga-Sunnyvale Road and Saratoga-Los Gatos Road may exceed their capacities by 1995 unless some alternate transportation systems are used. In addition to the impacts on these State Highways, there is citizen concern about the traffic levels on other arterials, particularly the West Valley College and commuter traffic on Saratoga Avenue, Fruitvale Avenue, Allendale Avenue, Prospect Road and Cox Avenue. Additional development along these roads and others should be carefully examined for potential significant traffic impacts. Potential aesthetic and noise impacts will also have to be carefully considered.

Another vital consideration is the desire to keep densities low to maintain neighborhood character. Allowing higher densities on infill parcels creates incompatible uses when they are substantially surrounded by low density single family development. One of the major reasons Saratoga incorporated in 1956 was to preserve its low density character.

Costs, in terms of time and money, attributed to governmental processing of development applications also act to constrain the development of housing. All projects in Saratoga are processing within the time limits set forth by AB-884, CEQA, and the Subdivision Map Act. But even while meeting these deadlines, it generally costs more to build a project from the time it is initially proposed to the time it is approved.

Direct development costs due to governmental processes include permit and application fees, park and recreation fees, improvement bonds, public works improvement fees, and environmental review fees. The fees charged in Saratoga are comparable to the fees charged by other local governments in the County and the rates were established to cover most of the costs incurred by the City to process an application. This became necessary when City funds were reduced due to the passage of Proposition 13 and because the City receives a smaller amount of property tax revenues due to the City's very low tax rate that was in effect when Proposition 13 was passed. In order for the City to continue to process applications and not have other City services suffer, those who use the development processing service were required to pay for more of it. City permit and processing fees add about $5,000 to the cost of a detached single family unit (see Table 18). Since Saratoga's median housing value is high, fees charged by the City make up a proportionally smaller percent of the overall cost of the unit than in other communities.

Site improvement requirements and building code requirements of the City are tied to public health, safety, and welfare. The cost of meeting those requirements is necessary. Such requirements could make it more difficult to rehabilitate existing older homes.

The Uniform Building Code (1982) the City uses is created by the International Conference of Building Officials (I.C.B.O.) and promulgated by the State. City staff will be encouraged to monitor changes in construction techniques and material to determine if changes to existing building code requirements should be recommended.

The City will also investigate the use of the State Historic Building Code in terms of reducing the cost of conserving and rehabilitating older, low cost housing.

Non-Governmental Constraints

By far the most significant constraint on developing new housing in Saratoga is the overall cost of housing including land costs, construction costs, and financing costs. Construction costs and financing costs also affect the ability of people to maintain or improve their homes. These costs can be traced to the real estate "boom" in the State and especially in the Bay Area during the 1970's. Many residents in Saratoga have indicated that if they had not bought their homes 10 or more years ago, they could not afford to buy them today. The City has no control over these costs.

Land and construction costs are reflected in the value of housing. The 1980 census was used to prepare Tables 19 and 20 which indicate that Saratoga contains some of the most expensive housing in the region. Over 60% of Saratoga's detached single family residential housing units are valued at over $200,000+ while only about 10% of the County's units and only 24% of the units in the western Santa Clara County market area, as defined by ABAG, are so valued (See Tables 19 and 20).

A scarcity of easily developable land, combined with great demand, indicates that housing costs are likely to remain high in the future. Continued inflation in the cost of building materials will also contribute to high housing costs.

For most potential homebuyers, the most significant constraint is getting affordable financing once a suitable home has been found. ABAG has indicated that due to the high cost of housing in Saratoga no moderate, low or very low income households (based on a regional median income) can afford homeownership in Saratoga. Early in 1982, ABAG estimated that the median house price in Saratoga was $234,554. Assuming a 15% down payment, and 12% interest rate for a 30 year fixed loan, a family would have to have $2,295/month available for home purchase. Assuming that ony 25% of a household's income should be devoted to housing costs (i.e., affordable housing), this means annual household income would have to be about $110,160 to afford a house in the median price range.

Assuming that in 1985 a very low income household will be making $17,387 or less, and that this household will use 25-35% of its income for shelter costs (including mortgage payments, insurance, and utilities), the maximum monthly payment for shelter should range from $362-507 per month. About 70% of this cost would be devoted to mortgage payments (this is based on conversations with several homeowners in the region.) Using these factors and assuming a 15% down payment, a 12% interest rate and a 30-year fixed loan, then maximum housing prices would range from $29,243 to $40,968. As of 1980, there were only about 33 homes in Saratoga with a value of $40,968 or less. Most of the existing lower valued homes are occupied by low income households which are not likely to make room for other lower income households, particularly if they are senior citizen

TABLE 18

PERMIT PROCESSING COSTS

SARATOGA, 1982

SUBDIVISION FEES*	COST
Tentative Map Fee	$1,500.00
Environmental Assessment Fee	75.00
Public Noticing Fee	200.00
Final Map Fee	600.00
Plan Check and Inspection Fee	6,900.00
TOTAL	$9,275.00
Cost per lot	927.50

INDIVIDUAL BUILDING PERMIT*	COST/LOT
Design Review	$ 400.00
Storm Drainage Fee	600.00
Park Fees	1,300.00
Building Permit Fee	525.00
Plan Check Fee	341.00
Construction Tax ($0.50/sq. ft.)	1.000.00
	$4,166.00
Total Permit Fee Cost Per Dwelling Unit	$5,093.50

* Based on a typical 10 lot subdivision in the R-1-10,000 zoning district and the construction of a 1,600 sq. ft. dwelling with a 400 sq. ft. garage.

TABLE 19

VALUE OF OWNER OCCUPIED SINGLE FAMILY
DETACHED RESIDENTIAL UNITS BY NUMBER OF HOUSEHOLDS

	County # Units	%	Saratoga # Units	%
Less than $10,000	219	0.10	2	.03
10,000 - 14,999	322	.15	3	.04
15,000 - 19,999	500	.23	3	.04
20,000 - 24,999	737	.33	3	.04
25,000 - 29,999	730	.33	6	.08
30,000 - 34,999	872	.39	8	.11
35,000 - 39,999	902	.40	6	.08
40,000 - 49,999	2,984	1.34	21	.28
50,000 - 79,999	34,257	15.43	163	2.20
80,000 - 99,999	55,199	24.86	353	4.77
100,000 - 149,999	75,716	34.10	962	12.99
150,000 - 199,999	26,190	11.79	1,288	17.40
$200,000+	23,423	10.55	4,586	61.94
Total	222,051	100.00	7,404	100.00

County Median - $109,000
Saratoga Median - $200,100*

* The 1980 census counted value for homes over $200,000 as $200,100 so the actual median value is not known.

TABLE 20

HOUSING VALUE

COMPARISON WITH MARKET AREA CITIES

(WESTERN SANTA CLARA COUNTY)

	Western Santa Clara County		Saratoga	
	No. Units	Per Cent	No. Units	Per
Less than $10,000	20	.19	2	.
$10,000 - 14,999	14	.14	3	.
$15,000 - 19,999	19	.19	3	.
$20,000 - 24,999	25	.24	3	
$25,000 - 29,999	20	.19	6	.
$30,000 - 34,999	34	.33	8	.
$35,000 - 39,999	29	.28	6	.
$40,000 - 49,999	104	1.01	21	.
$50,000 - 79,999	854	8.32	163	2.
$80,000 - 99,999	1,848	18.00	353	4.
$100,000 - 149,999	3,357	32.70	962	12.
$150,000 - 199,999	1,476	14.38	1,288	17.
$200,000+	2,467	24.03	4,586	61.
TOTAL	10,267	100.00	7,404	100.

Source: ABAG - Census '80 Data Profile

1 Western Santa Clara County is defined as Campbell, Chemeketa Park Redwood Estates, Los Gatos, Monte Sereno, and Saratoga (from ABAG' Housing Activity Report - May 1982, pg. 11).

2 Saratoga is excluded from these numbers for this comparison

3 The data on this chart was collected in 1980 so these numbers and percentages may have changed substantially in the past four years.

households. These homes may also increase significantly in value by 1985, thus further reducing the number of lower cost units available. Nonetheless, this lower valued housing stock is an important asset and its preservation is a major goal of the General Plan.

Considering the cost of land in Saratoga and increase construction costs, it will be extremely difficult to have lower cost ownership housing in Saratoga. Ownership costs can be only indirectly influenced by the actions of the City and are primarily the result of market factors beyond the control of the City.

The cost of flat land parcels in Saratoga can range from $250,000 - $500,000 per acre (based on conversations with development companies and certain land appraisals). Land costs can range from $58,000 - $115,000 for a standard 10,000 sq. ft. lot which is the smallest single family residential lot allowed in Saratoga.

Construction costs can run from $60-$100 per square foot for detached single family residences. Saratoga's Building Department currently uses a valuation of about $79/square foot for new construction in determining permit fees. However, even assuming a low construction cost of $60/square foot and no land cost, a 1,200 square foot unit with a two car garage (400 square feet at $20/square foot) would cost $80,000 which is beyond the means of the very low and low income groups (based on 1985 County median income). Only units with living space from 488 to 682 square feet or less become affordable, but again, this does not include land cost. (If land costs are included, unit cost would range from $87,000 to $146,000.)

Multi-family residential construction (again minus land costs) is estimated at $45/square feet minimum. A 620 square foot unit would cost about $31,900 including a 200 square foot single car garage. For these units to be affordable for very low income households, land costs would have to range from $0 to $9,000 per unit. Tables 21 and 22 show the relationships between land cost, construction cost, financing cost, and density under certain multi-family construction assumptions. These charts indicate that even under the most optimistic conditions the densities required for affordable lower income housing would be unreasonable. These densities are so high that there would be significant adverse impacts on adjacent residential neighborhoods and on the character of the City.

Considering these factors, it is highly unlikely that Saratoga will be able to provide lower cost housing for purchase by very low to low income households. Rental units would be able to accommodate the housing needs of this group, but as discussed above these units may not be available in sufficient numbers.

Even in the case of moderate income households affordability at moderate densities is tenuous because of the optimistic assumptions in Tables 21 and 22. The financing assumption of a 12%

fixed interest rate is probably the most subject to fluctuation. A more reasonable assumption may be 13%. Income probably will not reach the projected 1985 level and in any case 35% rather than 25% of the household's income would have to be spent on housing. The smallness of the units assumed (620 - 1000 sq. ft.) may not meet the needs of most moderate income households. Larger units and increased construction cost would require considerably higher densities. Land costs are probably closer to $500,000/acre than $250,000/acre.

TABLE 21

SARATOGA HOUSING NEED MATRIX - No. 1

		Household Income Level			
		VERY LOW	LOW	MODERATE	ABOVE MODERATE
No. Units Needed 1980- 1985 per ABAG		172	139	193	569
Annual HH Income	1980	$11,685 or Less	$11,686-$18,696	$18,697-$28,044	$28,045+
	1985	$17,386 or Less	$17,387-$27,818	$27,819-$41,726	$41,727+
Monthly Housing Cost (35% of Income	1980	$340 or Less	$340 - $545	$545-$818	$818+
	1985	$507 or Less	$507-$811	$811-$1217	$1217+
Max. Purchase Price[1]	1980	$23,346	$37,422	$56,168	$56,168+
	1985	$34,813	$55,687	$83,565	$83,565+
Density (DU/AC) Required (Land Cost: $250,000/AC)[2]	1980	---	45 +	10 +	10 or less
	1985	85+	10+	5+	5 or less
Density (DU/AC) Required (Land Cost: $500,000/AC)[2]	1980	--	90+	20+	20 or less
	1985	171+	21+	10+	10 or less
Density (DU/AC) Required (Land Cost: $250,000/AC)[3]	1980	--	--	79+	79 or less
	1985	--	93+	8+	8 or less
Density (DU/AC) Required (Land Cost: $500,000/AC)[3]	1980	--	--	158+	158 or less
	1985	--	186+	16+	16 or less
Current Rate of Production (units/Year)		0	0	0	20±

1. Assumes 15% downpayment; 12% interest on a 30 year loan

2. Also assumes a 620 square foot unit costing $45/sq. ft. and one covered parking space (200 sq. ft.) at $20/sq. ft. for a total construction cost of $31,900/DU.

3. Also assumes a 1000 square foot unit costing $45/sq. ft. and two covered parking space (400 sq. ft.) at $20/sq. ft. for a total construction cost of $53,000/DU.

-- Signifies that household could not afford to pay for the loan just covering construction costs.

TABLE 22

SARATOGA HOUSING NEED MATRIX - No. 2

		VERY LOW	LOW	MODERATE	ABOVE MO
Density (DU/AC Required (Land Cost: $250,000/AC)[1]	1980	--	--	19+	19 or les
	1985	--	19+	6+	6 or les
Density (DU/AC) Required (Land Cost: $500,000/AC)[1]	1980	--	--	37+	37 or les
	1985	--	39+	12+	12 or les
Density (DU/AC) Required (Land Cost: $250,000/AC)[2]	1980	--	--	--	?
	1985	--	--	20+	20 or les
Density (DU/AC) Required (Land Cost: $500,000/AC)[2]	1980	--	--	--	?
	1985	--	--	40+	40 or les

-- Signifies that household could not afford to pay for the loan just covering constructi costs.

1. Also assumes a 620 square foot unit costing $60/sq. ft. and one covered parking space (200 sq. ft.) at $28/sq. ft. for a total construction cost of $42,800/DU.

2. Also assumes a 1000 square foot unit costing $60/sq/ ft/ and two covered parking spaces (400 sq. ft.) at $28 sq. ft. for a total construction cost of $71,200/DU.

OPPORTUNITIES FOR ENERGY CONSERVATION

Part of the goal of creating affordable housing is creating energy efficient housing. Reducing energy costs allows low to moderate income families to spend scarce financial resources on other necessities. But energy conservation is also essential for higher income households as well. As energy use declines, demands for new energy sources drop and so do the costs of energy thus benefiting everybody. Saratoga is committed to energy conservation as can be seen by examining housing goal H.4.0 and its supporting policies.

However, much needs to be done to encourage energy conservation and uses of alternative energy sources, particularly solar energy systems. The City should provide information to homeowners and developers on energy conservation techniques. An energy information center with pamphlets and bibliographies on energy conservation would be appropriate.

City Ordinances need to be revised to encourage energy conservation and use of non-polluting sources of energy. Currently the City's Design Review Ordinance requires City review of the impact a new structure or addition may have on the solar access of adjacent properties. Also, all subdivisions, as provided in the Subdivision Map Act, are required to assess passive and natural heating and cooling opportunities available to lots in the subdivision. Generally speaking, many of the lots in Saratoga are large enough so that solar access is not a problem.

The City uses SHARP funds to provide insulation in rehabilitated homes for low and moderate income households. This program could be expanded to include other homes, occupied by low and moderate income households, that do not need other rehabilitation work.

The City could encourage cluster type development to promote energy conservation. Ordinances should be revised to encourage proper orientation for heating and cooling. Variations in ordinance standards to accomplish energy conservation should also be seriously considered by the City.

HOUSING GOALS, POLICIES AND OBJECTIVES

During the General Plan revision process, goals and policies for the Housing Element were suggested by citizens and members of the General Plan Citizens Advisory Committee although the Housing Element itself was not discussed in detail. Later the Planning Commission and City Council modified some of those goals and policies. The result of that work is listed below:

Goal No. 1

H.1.0 Promote the opportunity for all residents to have a sound home and a satisfying environment.

Policies

H.1.1 The City shall recognize the changing housing needs of Saratoga residents.

H.1.2 The City should encourage private development of a residential stock which will promote opportunities for housing for Saratoga senior citizens.

H.1.3 The City shall encourage accessibility for the handicapped in housing and other buildings.

H.1.4 The City shall cooperate with the efforts of the County, non-profit groups, and the private sector to provide help to individuals to continue living in and maintaining their homes.

H.1.5 The City shall rely upon the private sector's participation to satisfy housing needs.

H.1.6 The City should be responsive to new ideas in physical design and types of construction for meeting housing needs.

H.1.7 Rental housing opportunities should be maintained and encouraged.

Goal No. 2

H.2.0 Maintain and enhance the character, quality, and livability of the City's residential neighbors.

Policies

H.2.1 The City shall actively encourage conservation and, where necessary, rehabilitation of existing housing.

H.2.2 The City shall promote programs which will protect and maintain the City's lower valued housing stock.

H.2.3 The City shall promote land use decisions which will protect the environs of the City's lower valued housing stock.

H.2.4 The City shall strive to maintain the qualities that make Saratoga neighborhoods desirable for families with children.

H.2.5 The City shall maintain existing rental housing opportunities by continued implementastion of its condominium conversion ordinance which prevents the conversion of apartments unless more than 2% of the City's housing stock is in rental units and the apartment vacancy rate is over 3%.

H.2.6 Maintain the general low-density character of existing single-family residential areas.

Goal No. 3

H.3.0 Insure that new housing shall be compatible with the existing natural and constructed environment.

Policies

H.3.1 The City shall mitigate the danger of earthquake damage by enforcing strict earthquake construction and soil engineering standards, selecting the most stable areas for development, and by having developers compensate for soil instabilities by approved engineering and construction techniques.

H.3.2 Development shall be designed to retain the natural topographic features of the land to the maximum extent possible.

H.3.3 Any development in areas subject to natural hazards shall be designed to protect the environment, inhabitants and general public. In areas where personal injury, property damage, or damage to streets and utilities could occur, development shall be prohibited, unless the potential hazards can be mitigated or avoided through engineering or construction techniques.

Goal No. 4

H.4.0 Conserve our finite natural resources by stressing the importance of energy efficiency in housing.

Policies

H.4.1 The City shall promote building and subdivision designs which incorporate passive or natural heating opportunities.

H.4.2 Solar access for new and existing structures shall be protected without removal of existing mature trees.

H.4.3 The City shall encourage the use of the most energy efficient methods for space or water heating including use of solar energy as well as other methods. If solar systems are utilized, the City shall provide guidance for aesthetic placement

and installation of the solar system.

H.4.4 The City shall promote the use of available energy conservation techniques for new and existing structures with the realization that the aesthetics of the structure must be a prime consideration.

Goal No. 5

H.5.0 Saratoga shall continue to support the State's goal of providing decent housing and a suitable living environment.

Policies

H.5.1 The City should discourage discrimination in housing based on race, religion, national origin, sex, marital status or physical handicap.

H.5.2 The City shall continue to support fair housing rules and practices.

Goal No. 6

H.6.0 Affirm that the City shall continue to be predominantly a community of single-family detached residences.

Policies

H.6.1 Existing nondeveloped sites zoned single-family detached residential should remain so designated.

H.6.2 Industrial land use in Saratoga shall be limited to existing sites.

Additional Housing Element Policies

After its review of the State's comments regarding the Draft Housing Element, the City Council discussed a variety of optional responses to those comments. Some of these response options have been converted into new policies or have modified the policies proposed in the draft. These changes are as follows:

H.1.8 The City shall consider a second unit ordinance.

H.1.9 Encourage staff to monitor construction techniques and materials and to amend the building code where appropriate to allow innovative cost saving techniques consistent with safety.

H.1.10 Continue current plans for the Village to allow and encourage multi-family residential/commercial mixed use through the conditional use permit process.

H.1.11 Affirm the City's policy not to interfere with free market rental practices through the imposition of rent control.

H.2.7 Continue present City policies not to preclude the sharing of existing housing.

H.2.8 Continue City efforts to preserve all existing Section 8 rental units for seniors.

H.2.9 Continue the City's present SHARP program including eligible infrastructure improvements.

H.2.10 Where appropriate provide funding for existing low and moderate income projects.

H.5.3 Encourage citizen participation from all segments of the community in identifying and discussing housing issues.

Objectives

State law requires communities to quantify their housing objectives. Since it is unlikely that the City will meet the housing need projected by ABAG the City should project the maximum number of housing units it expects to produce within a five year time frame.

Quantified Objective No. 1 - New Construction

1. The City of Saratoga has little or no control over the market forces that affect the level of housing construction activity. The current rate of housing production governed by these market forces falls far short of the housing need requirements projected by ABAG for all household income categories. The most the City is likely to produce in terms of new housing units would be 20 units per year in the above moderate income range. If a second unit ordinance is adopted in 1984 perhaps a maximum of 10 low to moderate income units could be produced annually. Therefore, the City can only expect a total of 150 units over the next five years (1989).

Quantified Objective No. 2 - Conserving Existing Housing

2. Through Saratoga's Housing Assistance and Rehabilitation Program SHARP) the City intends to rehabilitate 12 units per year or 60 units by 1989 in an attempt to arrest housing deterioration in older portions of the community. However, City staff administering the SHARP Program has been reduced so it may be difficult to rehabilitate these units in time or even meet the modest objective of 12 units per year.

It is anticipated that all 263 existing rental units will be preserved by the City's existing condominium conversion ordinance since vacancy rates will probably continue to be low through 1989. Also, in 1984 the City will use HCD funds to preserve 20 low to moderate income units known as Saratoga Court which provide needed housing for senior citizens.

ACTION PROGRAM 1984-1989

The following sections describe the actions the City of Saratoga is taking and intends to take between 1984-1989 to ensure that the goals and policies of the Housing Element are implemented or modified to meet new needs as they arise.

Current Housing Assistance Program

The City has used federal funds to implement the Saratoga Housing Assistance and Rehabilitation Program (SHARP) which has consisted primarily of a home improvement loan subsidy program for low and moderate income homeowners to repair and bring their homes up to code standards. Units eligible for this program are primarily concentrated in three areas: Saratoga Gardens, the Quito area and the Elva-Paul-Springer area which are the oldest areas of the City. The purpose of this program is to rehabililtate deteriorating housing units thus maintaining a housing stock for low to moderate income housholds. Thus far the program has rehabilitated approximataely 50 units.

Recently the program has been used for street and draingaae improvements in two areas (Quito and Paul Ave.) as a means of improving the environment where many of these low to moderate income units are located. The City intends to continue this program, but the objectives will have to be scaled down due to declining federal monies and the loss of a program staff member.

The City of Saratoga has authorized the Santa Clara Housing Authority to operate within the City. The City will continue to support, to the extent feasible, existing Section 8 units.

The City adopted a condominium conversion ordinance in 1976 as a result of the continued loss of rental units that displaced many lower income households. This ordinance prevents conversion of apartments unless more than 2% of the City's housing stock is in rental units and the apartment vacancy rate is over 3%.

A Planned Residential Ordinance was adopted by the City in 1977 to allow greater flexibility in developing residential projects and higher density for senior citizen housing projects. This ordinance is tied to the Planned Development (P-D) General Plan Designation which was developed to meet the goals of the 1974 Housing Element.

Five Year Implementation Program 1984-1989

State law requires each community to develop a five year schedule of actions it is undertaking or will undertake to implement the Housing Element. In addition to the continuation of the programs listed above the City of Saratoga intends to accomplish the following:

1. Identify Adequate Housing Sites

The City currently has sufficient land to accomodate the needs of the above moderate income households projected by ABAG for 1990. Land costs and other economic factors require densities that would be highly impractical for the City to maintain to provide affordable housing for other income groups especially the very low and low income households. Some in these groups will be housed in second units once a second unit ordinance is adopted.

The City does have 31 acres of commercial land which could be used for multi-family housing, either ownership or rental, upon receipt of a use permit. These commercial lands represent potentially 366-411 dwelling units which could provide some of the low to moderate income housing needs projected by ABAG.

This could happen if market conditions favored the use of this land for residential purposes. The City has no way of accurately predicting how this land will be used but it is available for multi-family residential purposes.

2. Assisting Low and Moderate Income Households

The City will continue to particpate with the Santa Clara County Housing Authority in the Section 8 Rental Program. As an incentive to create additional rental units, the City will maintain its policy of not interfering with free market rental practices.

3. Mitigation of Government Constraints

The City will encourage staff to monitor construction techniques and materials to determine if the building code needs amendment to allow innovative cost saving techniques consistent with safety. Within the constraints of State law the City will allow for focused E.I.R.'s and mitigated Negative Declarations whenever possible in lieu of full E.I.R.'s. The Community Development Department will have the primary responsibility in carrying out this program.

4. Conserve and Improve Existing Housing Stock

The City of Saratoga will continue its housing rehabilitation program as long as federal funds are available. The primary focus of the program will continue to be the preservation of the existing older housing stock available to low and moderate income households. The City will continue to seek funds to improve this housing stock and its environs. The primary responsibility for this will fall to the City Manager's Office and the HCD Coordinator.

5. Equal Opportunity in Housing

Currently there is no evidence of discrimination based on race, religion, sex, national origin, ancestry, color or marital status.

The City will encourage fair housing practices by cooperating with non-profit housing and citizen organizations. The City will also encourage citizen participation from all segments of the community in identifying and discussing housing issues. Where appropriate, the City has used available HCDA funds to preserve existing low to moderate income projects in the past and may consider using HCDA funds in the same manner in the future.

ENVIRONMENTAL ASSESSMENT

This section deals with the environmental impacts associated with the adoption of the Housing Element, the mitigation measures proposed within the General Plan and Housing Element to offset those impacts, and various alternatives to the proposed Housing Element.

SIGNIFICANT EFFECTS OF THE PROPOSED HOUSING ELEMENT

The discussion of significant effects of the General Plan/EIR of Saratoga is hereby incorporated by reference and made part of this Housing Element/EIR.

Land Use and Resource Consumption

The City's vacant or underdeveloped acreage would be developed at the densities established in the General Plan adopted in 1983. Some open space/recreation resources could be lost if school sites or City owned property is developed for housing. The most significant impacts associated with the Housing Element are the cumulative impacts that would result when the remaining vacant or partially developed parcels are developed. The General Plan/EIR discusses these impacts identifying traffic, natural resource consumption, and energy consumption as the most significant. Traffic impacts are significant primarily in a regional sense since Saratoga will be contributing to the commuter traffic congestion of some of the major highways of the region. Traffic increases could be significant to specific neighborhoods. The increased use of energy and natural resources could be considered significant in cumulative sense when incorporated with the resource consumption of the state or region although Saratoga's contribution is relatively small.

Air Quality

Using the traffic projections generated by the maximum development densities proposed in the Housing Element and applying these numbers to formulas provided by the California Air Resources Board (URBEMIS #1 A Land Use Emissions Model - Nov. 1982) and CAL-TRANS (CALINE 3 - Model) the following impacts on air quality were determined:

Emission Type	Additional Amount Added to Atmosphere by Year 2000
Carbon Monoxide (CO)	429.3 tons/yr
Hydrocarbons (HC)	9.4 tons/yr
Nitrogen Oxides (NOx)	26.0 tons/yr

These numbers assume all units will be built by the year 2000

(maximum) of 1150 units; 943 single family units and 207 multifamily units) and a worst case situation of an ambient temperature of 35 degrees F. and a vehicle speed of 20 mph. In a cumulative regional sense, these additional pollutants may have a significant impact when combined with other development projects in Santa Clara County and the Bay Area. The solution to that problem is beyond the scope of this EIR. However, the City is encouraging the use of some alternative forms of transportation in the General Plan's Goals and Policies to reduce this impact (see Mitigation Measures).

CAL-TRANS has calculated the 1-hour and 8-hour carbon monoxide concentrations likely to occur on Saratoga's most heavily traveled arterial (Saratoga-Sunnyvale Rd.) using the CALINE 3 model. The 1-hour concentration was calculated at a maximum of 6.5 ppm by the year 2000. Neither of these concentrations exceed current State standards for 20 ppm for 1 hour and 9 ppm for 8 hours. These calculations assumed: 3500 trips at peak hour, 20 mph average speed, 6 hours D stability class at 17 gm/mile emission factor and 2 hours F stability class at 29 gm/mile, 1 hour peak ambient of 6 ppm, and a variety of wind angles. It should be noted that CALINE 3 has only been validated for freeway conditions, not stop and go traffic. However, the assumptions used in this calculation appear to suit Saratoga's situation the best.

UNAVOIDABLE EFFECTS

The discussion on unavoidable effects of the General Plan/EIR of Saratoga is hereby incorporated by reference and made part of this Housing Element/EIR.

The most significant unavoidable effect is the irreversible commitment of agricultural and open space lands (some of which provide wildlife habitat) to residential uses. The size and value of the agricultural parcels indicates that their use agriculturally will not remain economical. Implementation of certain policies of the General Plan could mitigate traffic, freeway use and resource use impacts, but such impacts cannot be eliminated entirely. Disruption to the physical environment can also be partially mitigated, by minimizing grading and directing increased runoff into planned drainage systems as required by City code, but permanent placement of housing units is inevitable.

MITIGATION MEASURES

The discussion on mitigation measures of the General Plan/EIR of Saratoga is hereby incorporated by reference and made part of this Housing Element/EIR.

ALTERNATIVES TO THE PROPOSED HOUSING ELEMENT

A. No project (i.e., no amendment to the existing Housing Element): Without the proposed amendment low to moderate income

housing needs will likely not be provided for within Saratoga. There might be lesser environmental impacts, but residential development will continue so it is anticipated this reduction in impact will not be substantial. This alternative is not considered feasible since State law mandates the revision of the Housing Element.

B. Higher Densities on Vacant or Underdeveloped Residential or Mixed Use Parcels: This proposal would not comply with the major goal of preserving what the residents believe to be the desirable qualities of Saratoga. Higher density could significantly increase traffic impacts depending on the location and number of such higher density housing projects. With an increase in traffic impacts, there would certainly be an increase in air quality impacts. But the land available for such projects indicates that, in a regional sense, Saratoga's contribution to the County and Bay Area's traffic and air quality problems will be relatively small. Energy and resource consumption will also increase but at a relatively small rate.

C. Rely Exclusively on Second Units to Provide Necessary Low and Moderate Income Housing: This alternative would not require an increase in density of residential parcels, but would still increase traffic and air quality impacts. Energy for house heating and resource consumption would likely be less than if new, smaller buildings were constructed.

D Convert Remaining Vacant or Partially Developed Commercial or Industrial Land to Residential Use: This alternative would increase the number of housing units provided without increasing density. However, this option would reduce the economic viability of the City which is already stressed due to a variety of revenue reductions. Such conversions would not provide sufficient low to moderate income units since land costs would still be high. Thus, one of the State's and City's major goals would not be achieved.

SHORT-TERM USE VS. LONG-TERM PRODUCTIVITY

The discussion on short-term/long-term impacts of the General Plan E.I.R. of Saratoga is hereby incorporated by reference.

The greatest long-term impact on the environment by the Housing Element would be the commitment of vacant open space or agricultural lands to residential use and the cumulative impacts (traffic, resource consumption and air quality) associated with such use. Short term impacts associated with the construction of housing units will be substantially mitigated by the policies of the General Plan and code requirements that are directed to controlling development practices. Although some disruption of the physical environment will be necessary to construct housing, environmentally sensitive areas will be protected by the implementation of the goals and policies of the General Plan.

SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES:

The discussion on significant environmental changes of the General Plan/EIR of Saratoga is hereby incorporated by reference.

Use of remaining vacant parcels for residential purposes involves an irretrievable commitment of land which, with only 15% of the City undeveloped, is a scarce resource. Residential construction will require greater use of energy and natural resources.

The irreversible commitment of these resources would result from meeting the State's goal of providing housing.

GROWTH INDUCING IMPACTS

The discussion on growth inducing impacts of the General Plan/EIR of Saratoga is hereby incorporated by reference.

Excluding the vacant parcels in the hillsides which are primarily dealt with in the Northwestern Hillsides Specific Plan, the remaining vacant parcels in the City would be developed as infill projects which will not require the significant extension of urban services. No agency providing basic services such as sewage treatment, water, fire protection, electricity, gas, etc., has indicated that these services cannot be provided. The infrastructure outside the Northwestern/Hillside Area will not be significantly changed other than street improvements to serve individual projects on parcels of 10 acres or less in size.

Growth Projections

The discussion on growth projections of the General Plan/EIR of Saratoga is hereby incorporated by reference.

A. Residential Population

The General Plan/EIR projected that approximately 1,020-1,200 units based on the densities in that plan would be constructed at buildout in addition to the 9,740 units already in the City. 3,200-4,200 people could be added to the City's estimated population of about 30,000. Even with those increases, the total population of Saratoga would be under the 35,000 person carrying capacity originally established in the 1974 General Plan.

B. Traffic Growth

The General Plan/EIR projected that 25.6% of the future traffic of the City or about 10,000 - 11,000 ADT (Average Daily Trips) will be generated by residential use at buildout. In general terms, those increases were not determined to have an adverse impact when spread over the City. With increased densities, 85-127 additional units could be construacted in excess of the 1020 DU anticipated in the General Plan/EIR. This represents an increase of 498-762 ADT over that projected in the General Plan/EIR or about a 1-2% increase in the total projected increased

traffic for all uses.

This increase is not substantial based on current or projected ADT figures. However, individual roadways such as Quito Road, with poor service levels, could be impacted.

DISCUSSION OF EFFECTS NOT CONSIDERED SIGNIFICANT

No housing units will be located in severe geologic hazard areas. The major hazard areas are located in the hillside areas which require geotechnical and soil studies prior to development. Further information on these hazards can be found in the EIR for the Northwestern Hillside Specific Plan and the EIR's for specific subdivisions in the hillsides.

Some soil disruption and vegetation removal is necessary with any project involving construction. Saratoga has a very stringent grading ordinance and development review procedure which tends to significantly reduce such impacts. The City's tree ordinance prohibits removal of any tree over 12 inches in diameter measuring 2 feet above grade. Erosion control plantings are required for hillside subdivisions. (See above referenced EIR's for further information).

END NOTES

[1]Data based on apartment surveys done by Planning Department staff from 1978-1982.

[2]ABAG

[3]A high correlation has been established in other communities between visible exterior physical problems and similarily extensive problems on the interior.

[4]Based on a 1980 Santa Clara County Median Income of $23,370

50% of median	=	Very Low Income
50-80% of median	=	Low Income
80-120% of median	=	Moderate Income
120%+ of median	=	Above Moderate Income

[5]Draft Interim Housing Element, dated June 26, 1981, Pg. 2.

[6]ABAG - Census '80 data bulletins

APPENDIX 1

FORM EIA-1b

CITY OF SARATOGA

CRITERIA FOR DETERMINING
SIGNIFICANT ENVIRONMENTAL IMPACTS

(TO BE COMPLETED BY PUBLIC AGENCY)

PROJECT: Revised Housing Element FILE NO: GPA 83-1

LOCATION: City of Saratoga

I. BACKGROUND

1. Name of Proponent: City of Saratoga
2. Address and Phone Number of Proponent: 13777 Fruitvale Avenue, Saratoga, CA 95070 (408) 867-3438
3. Date of Checklist Submitted: 12/3/82
4. Agency Requiring Checklist: City of Saratoga
5. Name of Proposal, if applicable: Housing Element

II. ENVIRONMENTAL IMPACTS

(Explanations of all "yes" and "maybe" answers are required on attached sheets.)

	YES	MAYBE	NO
1. Earth. Will the proposal result in:			
a. Unstable earth conditions or in changes in geologic substructures?			X
b. Disruptions, displacements, compaction or over-crowding of the soil? Higher densities might require greater disruptions to soil.		X	
c. Change in topography or ground surface relief features?			X
d. The destruction, covering or modification of any unique geologic or physical features?			X

	YES	MAYBE
e. Any increase in wind or water erosion of soils, either on or off the site?		X
Increased runoff from higher density development could increase erosion.		
f. Changes in siltation, deposition or erosion which may modify the channel of a river or stream or the bed of a lake?		
g. Exposure of people or property to geologic hazards such as earthquakes, landslides, mudslides, ground failure, or similar hazards?	X	
Geologic hazard similar to other areas in region. Mitigating policies are in General Plan.		
2. Air. Will the proposal result in:		
a. Substantial air emissions or deterioration of ambient air quality?		X
Higher densities could increase air emissions but that amount would be small in a regional sense.		
b. The creation of objectionable odors?		
c. Alteration of air movement, moisture or temperature, or any change in climate, either locally or regionally?		
3. Water. Will the proposal result in:		
a. Changes in currents, or the course or direction of water movements in fresh water?		
b. Changes in absorption rates, drainage patterns, or the rate and amount of surface water runoff?	X	
Higher densities could increase the amount of impervious surface thus increasing runoff.		
c. Alterations to the course or flow of flood waters?		

	YES	MAYBE	NO
d. Change in the amount of surface water or any water in any water body?	X		
Cumulative impacts of developments creating new impervious surface will increase water volume.			
e. Discharge into surface waters, or in any alteration of surface water quality, including but not limited to temperature, dissolved oxygen or turbidity?			X
f. Alteration of the direction or rate of flow of ground waters?			X
g. Change in the quantity of ground waters, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations?		X	
Higher densities could increase demand on ground water.			
h. Substantial reduction in the amount of water otherwise available for public water supplies?		X	
See 3(g) above			
i. Exposure of people or property to water related hazards such as flooding?			
j. Significant changes in the temperature, flow, or chemical content of surface thermal springs?			X

4. Plant Life. Will the proposal result in:

a. Change in the diversity of species, or number of any species of plants (including trees, shrubs, grass crops, and aquatic plants)?	X		
More vegetation could be removed with higher density developments. Element to mitigate.			
b. Reduction of the numbers of any unique, rare or endangered species of plants?		X	
None known			

	YES	MAYBE	NO
c. Introduction of new species of plants into an area, or in a barrier to the normal replenishment of existing species?			X
d. Reduction in acreage of any agricultural crop?	X		

Some orchard space will be lost as parcels are developed but most development will occur in areas already designated for development.

5. Animal Life. Will the proposal result in:

a. Change in the diversity of species, or numbers of any species of animals (birds, land animals including reptiles, fish, or insects)?	X		

As land is developed wildlife habitat will be lost. General Plan will preserve some areas.

b. Reduction of the numbers of any unique, rare or endangered species of animals?		X	

None Known.

c. Introduction of new species of animals into an area, or result in a barrier to the migration or movement of animals?			X
d. Deterioration to existing wildlife or fish habitat?	X		

See 5(a) above.

6. Noise. Will the proposal result in:

a. Increases in existing noise levels?	X		

Temporary construction noise will have some impact but will be mitigated.

b. Exposure of people to severe noise levels?			X

7. Light and Glare. Will the proposal produce new light or glare?			

	YES	MAYBE	NO
8. Land Use. Will the proposal result in a substantial alteration of the present or planned land use of an area?	X		
Higher densities on some sites could be necessary to implement the Housing Element.			
9. Natural Resources. Will the proposal result in:			
a. Increase in the rate of use of any natural resources?		X	
Construction, in cumulative sense, increases use of natural resources.			
b. Substantial depletion of any nonrenewable natural resource?		X	
In conjunction with regional development, fossil fuels will be depleted.			
10. Risk of Upset. Will the proposal involve:			
a. A risk of an explosion or the release of hazardous substances (inlcuding, but not limited to, oil, pesticides, chemicals or radiation) in the event of an accident or upset conditions?			X
b. Possible interference with an emergency response plan or an emergency evacuation plan?			X
11. Population. Will the proposal alter the location, distribution, density, or growth rate of the human population of an area?	X		
Higher densities would create larger population.			
12. Housing. Will the proposal affect existing housing, or create a demand for additional housing?	X		
Housing Elements will encourage maintenance of existing housing as well as increased construction to meet regional needs.			
13. Transportation/Circulation. Will the proposal result in:			
a. Generation of substantial additional vehicular movement?	X		
Higher densities will probably increase daily traffic. Increases could be substantial for some locations.			

	YES	MAYBE	NO
b. Effects on existing parking facilities, or demand for new parking?		X	

Increase number of residents that shop in Saratoga could increase parking demand.

c. Substantial impact upon existing transportation systems?		X	

Traffic increases could have impact on existing street system.

d. Alterations to present patterns of circulation or movement of people and/or goods?			X
e. Alterations to waterborne, rail or air traffic?			X
f. Increase in traffic hazardous to motor vehicles, bicyclists or pedestrians?	X		

Increase in traffic may make use of major thoroughfares more hazardous.

14. Public Services. Will the proposal have an effect upon, or result in a need for new or altered governmental services in any of the following areas:

a. Fire protection?	X		
b. Police protection?	X		
c. Schools?			X
d. Parks or other recreational facilities?		X	
e. Maintenance of public facilities, including roads?	X		
f. Other governmental services?	X		

Development of vacant parcels will require the increase of fire and police services but only minimally especially since infill parcels will be focus for higher density. New roads and increased traffic will increase need for maintenance.

15. Energy. Will the proposal result in:

a. Use of substantial amounts of fuel or energy?	X		

Increased number of people, traffic will increase use of energy. Higher density development could be more energy efficient.

	YES	MAYBE	NO
b. Substantial increase in demand upon existing sources of energy, or require the development of new sources of energy?	X		

Likely increase in fossil fuel demand. Cumulative impact with development in other jurisdictions may require development of new sources.

16. Utilities. Will the proposal result in a need for new systems, or substantial alterations to the following utilities:

a. Power or natural gas?		X	
b. Communications systems?		X	
c. Water?		X	
d. Sewer or septic tanks?		X	
e. Storm water drainage?		X	
f. Solid waste and disposal?		X	

Higher densities will occur in flatland infill sites that will require no significant extension of urban services. Slightly higher population will increase demands on these services.

17. Human Health. Will the proposal result in:

a. Creation of any health hazard or potential health hazard (excluding mental health)?			X
b. Exposure of people to potential health hazards?			X

18. Aesthetics. Will the proposal result in the obstruction of any scenic vista or view open to the public, or will the proposal result in the creation of an aesthetically offensive site open to public view? | | | X |

19. Recreation. Will the proposal result in an impact upon the quality or quantity of existing recreational opportunities? | X | | |

Some recreation opportunities will be lost if school sites or City property are developed for housing.

	YES	MAYBE	NO
20. Cultural Resources.			
a. Will the proposal result in the alteration of or the destruction of a prehistoric or historic archeological site?	___	___	___
b. Will the proposal result in adverse physical or aesthetic effects to a prehistoric or historic building, structure, or object?	___	___	___
c. Does the proposal have the potential to cause a physical change which would affect unique ethnic cultural values?	___	___	___
d. Will the proposal restrict existing religious or sacred uses within the potential impact area?	___	___	___
21. Mandatory Findings of Significance.			
a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	X	___	___
Project could potentially reduce quality and quantity of wildlife habitat.			
b. Does the project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals? (A short-term impact on the environment is one which occurs in a relatively brief, definitive period of time while long-term impacts will endure well into the future.)	X	___	___
Over long term some existing open space areas will be developed and will not be available for other use.			

	YES	MAYBE	NO
c. Does the project have impacts which are individually limited, but cumulatively considerable? (A project may impact on two or more separate resources where the impact on each resource is relatively small, but where the effect of the total of those impacts on the environment is significant.)	X		

Project will have cumulative impact on energy resources and other natural resources. Contribution to regional traffic problem.

	YES	MAYBE	NO
d. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?		X	

Increased traffic (air pollution), water use, and sewage treatment may have adverse cumulative impacts when combined with other projects in the region.

III. DISCUSSION OF ENVIRONMENTAL EVALUATION

The proposed project is the adoption of a new Housing Element for the General Plan of Saratoga. The most significant impact will be increased residential densities necessary to implement the Element. This could increase cumulative impacts related to traffic, water and energy use and use of natural resources. Increased residential development to meet housing needs will reduce the amount of land available for open space. There will also be an increased demand for urban services but no significant extension of these services will be required since higher densities will only be targeted for infill parcels that are relatively easy to develop. The policies of the General Plan and the Housing Element in conjunction with current codes and ordinances will contain mitigation measures to lessen the potential adverse impacts identified in this initial study.

IV. DETERMINATION

On the basis of this initial evaluation:

( ) I find the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

( ) I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures described on an attached sheet have been added to the project. A NEGATIVE DECLARATION WILL BE PREPARED.

(X) I find the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

DATE: 12/3/82

Michael Flow
SIGNATURE

For: R. S. Robinson, Jr.

ADDITIONAL COMMENTS:

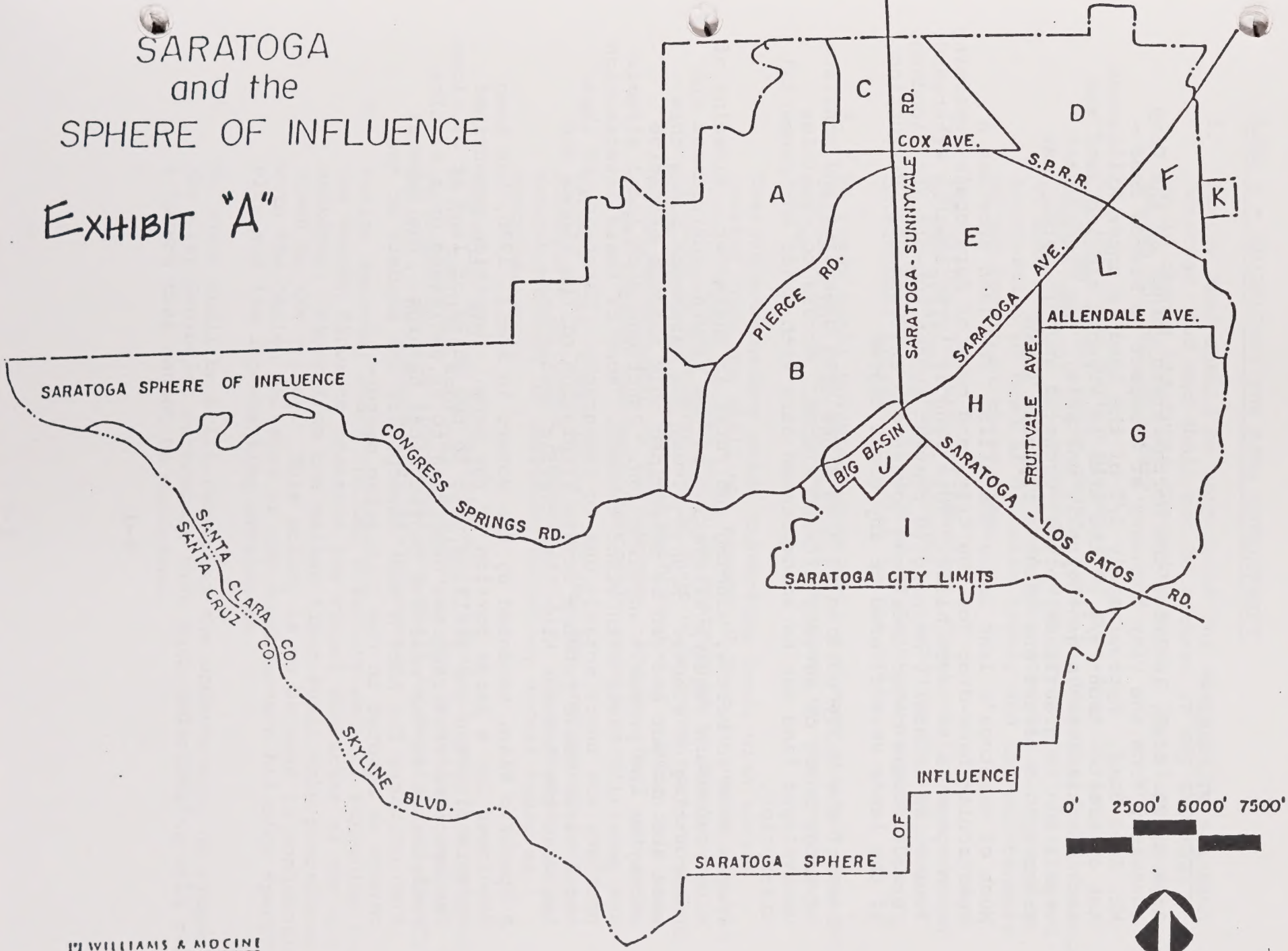
(rev. 5/16/80)

CHAPTER 4

AREA PLANS

SARATOGA and the SPHERE OF INFLUENCE

EXHIBIT "A"



WILLIAMS & MOCINE
CITY & REGIONAL PLANNING

3/3/83

AREA A - MT. EDEN

Area A, Mt. Eden, includes the northwestern corner of the City southerly from the City boundary at Prospect to Pierce Road - Mt. Eden Road. Approximately 1/5 of the land is under Williamson Act contract. About 3/4 of the area is steeply sloping land and much of this land is geologically unstable. The predominant vegetation is grasslands, brush, orchards and vineyards, oak and hardwood forest and natural riparian areas.

Much of Saratoga's land is in the hills. The land provides a spectacular back-drop for the City, and much of Saratoga's remaining open space is in these hills. This land is irreplaceable watershed. It absorbs rainfall, helping to prevent sudden run-off and flooding. It would cause major local and downstream environmental disruption if the lands were altered to any great degree.

Some of the hilly portion of Area A has been urbanized and consists of large homes on severly altered slopes. Access to remaining undeveloped land can be accomplished only with major environmental disruption.

Pierce Road is narrow, winding and rural in character. Widening of this road would require alteration of the natural environment and undercutting of slopes. Rights-of-way for easements along this road are unclear and can be determined only through extensive surveying and probable adjudication. Junctions with local streets are generally steep with blind corners. Most of these intersection problems are uncorrectable due to topography. Extension of these local roads would produce severe alteration of the slopes and increase the present high risk traffic conditions.

A Specific Plan, mandated by the voters in April, 1980, has been developed for a large portion of the area. Densities prescribed by this plan are one dwelling unit to two acres of land at 0% slope. The Specific Plan requires densities to be decreased on a sliding scale based on the relative geotechnical hazards. The General Plan criteria for Area A must incorporate the mandate of the voters as adopted in the initiative measure.

AREA A - GUIDELINES FOR AREA DEVELOPMENT

1. Pierce Road should be considered for designation as a heritage road and shall not be altered in any way that would change its rural character except for alterations needed for public safety.

2. All oak trees with a diameter of more than 10 inches, measured 2 feet above grade, shall be designated as heritage trees. Removal and pruning of such trees shall be limited to that required for public safety, protection of property, elimination of dead of diseased trees, and the maintenance of the health of these trees.

3. The natural features of Prospect Creek shall be preserved to the greatest extent possible. Landscaping and revegetation of the creek area will be required as part of any development project adjacent to the creek.

4. No roads shall traverse lands having slopes greater than 30% unless prior specific approval is given by the governing bodies.

5. Emergency/secondary roads traversing lands with slopes greater than 20% shall not exceed 20 feet in over-all paved width. Rights-of-way shall be restricted to dimensions required to construct the 20 foot wide paved portion and to allow the installation and maintenance of public utilities installed adjacent to the roadway. Houses shall not gain access through emergency/secondary access roads.

6. Wardell Road, Comer Drive, Old Oak Way and Quarry Road are inadequate to handle through traffic. They should not be extended except as emergency/secondary access roads as described above.

7. Homesites should be restricted to areas of less than 30% unless prior specific approval is given by the governing bodies. Stringen geotechnical site investigations shall be required if the City Geologist determines they are necessary.

8. Design approval shall include effective natural screening from the valley floor to preserve the visual character of the City's backdrop. Views from the valley floor shall take precedence over views to the valley. This policy is to be used in conjunction with the design policies of the Northwestern Hillside Specific Plan and its implementing ordinances.

9. No homes shall be built requiring the undercutting of slopes if the City Geologist determines that such undercutting will create a hazard that cannot be mitigated.

10. Floor levels of homes shall be stepped to conform to the natural contours of the hillside.

11. Site alterations should be minimized.

12. Development proposals utilizing maximum densities should include community tennis courts and swimming pools and discourage individual site-by-site construction of these amenities. Such amenities shall not require substantial modifications to existing topography, removal of significant vegetative features, create significant adverse drainage impacts, or create adverse visual impacts.

13. Cancellation of Williamson Act contracts shall not be permitted unless the cancellation is otherwise permitted by State Law.

14. No additional gas or water lines shall traverse lands that have a high risk of instability unless such risks can be mitigated through adequate engineering and construction techniques. Specific site investigation shall be done, with safety approved in writing by the City Geologist, before approval is given for any utility extensions.

15. The City shall not participate in the formation of any future utility assessment districts wherein substantial utility installations will be constructed upon lands of known instability.

16. The Knight-Smith parcel shall be designated Very Low Density Residential (R-1-40,000) and the Miller parcel shall be designated Medium Density Residential-M-12,5 (R-1-12,500) on the General Plan Map.

AREA B - CONGRESS SPRINGS/PIERCE ROAD

Area B is bounded by Pierce Road on the north, Saratoga Creek and Congress Springs Road on the south and is to the west of Saratoga-Sunnyvale Road. Most of the area is occupied by low density residential development, or mountainous and orchard open space, similar to Area A. There are, however, some differences between the two areas. Area B contains one Williamson Act orchard. Foothill Elementary School, the only school within the area, is in the R-1-15,000 area paralleling Saratoga-Sunnyvale Road. Wildwood City Park is located near the Village Business District, which is just across Saratoga Creek. Adjacent to the Park, separated by Fourth Street, is an area of former apartments which have been converted to condominiums. An area of more spacious clustered condominiums materially increased in size since the last plan review is to the southwest. Lying at one end of the area and close to the village, this region is somewhat separated from the rest of the area and has minimal impact on the overall predominance of single family lower density homes in Area B.

Except for the hillside area, the majority of Area B is already developed. There remains a parcel known as the "Horticultural Foundation" and a nearby orchard area, designated "Spaich Orchard" both with potential for significant development. The Foothill School site would also be a candidate for development if it were closed by the school district.

The area is unanimous in the desire to assure that any development or redevelopment of sites wihin the area be only single family detached residential with a density consistent with the surrounding neighborhood.

A major concern of the area is the development of the West Valley Corridor as a full freeway. The area unanimously indicated a high priority on immediate development of the corridor, in the belief that its completion would greatly decrease the present intolerable traffic on Saratoga-Sunnyvale Road. The residents are concerned with the noise, pollution and safety hazards presented by the ever-increasing traffic on that road. In the absence of the promised development of the corridor, the area would like other remedies for relief from the adverse impact of the traffic. These might include sound walls, dense plantings or other means of decreasing through traffic on Saratoga-Sunnyvale Road.

Another concern is the through traffic in neighborhoods which seem to be a result of extensive hillside development. It is felt that this traffic is using residential streets for access to Saratoga-Sunnyvale Road and that the roads designated as collectors are not adequate to handle the traffic that is being generated. For this reason, there is opposition to development that will create more trips to and from Saratoga-Sunnyvale Road.

AREA B - CONGRESS SPRINGS/PIERCE ROAD

Among other traffic related concerns is the safe pedestrian passage between the west side of Saratoga-Sunnyvale Road and the shopping and school areas in the Argonaut area. It is felt that a pedestrian signal at Blauer Drive would help provide safe access to shopping and school. In conjunction with any development between the existing Argonaut Center and Cox Avenue, it is felt that a thorough plan for handling any increase in traffic in and out of the shopping area should be developed, possibly to include an access road which could also provide access to Cox Avenue.

Residents of this planning area who reside in the Fourth Street vicinity find it difficult to get from Fourth Street to Big Basin Way during peak traffic hours. This situation is especially severe during commute hours and holiday weekends and during the Christmas period when the tree sales are taking place in the county area of the hillsides. For this reason, a safe way of turning from Fourth Street onto Big Basin Way is felt to be a necessity. This would also help decrease some of the through traffic in other neighborhoods which is generated by those people trying to bypass this traffic bottleneck.

AREA B - GUIDELINES FOR AREA DEVELOPMENT

1. All development of vacant sites within this area shall be limited to single family detached residential and conform to the density of the surrounding residential area.

2. A traffic signal should be installed in the vicinity of Saratoga-Sunnyvale Road and Blauer to provide safe pedestrian passage between homes on the west of Saratoga-Sunnyvale and shopping and schools on the east side of the road.

3. Traffic should be reviewed to enable those living in the area of Fourth Street to safely enter Big Basin Way during peak traffic and holiday times when traffic is heavy.

4. In the absence of completion of a freeway in the West Valley Corridor, the City shall work with the appropriate agencies to develop and implement a plan to increase the protection of neighborhoods bordering Saratoga-Sunnyvale Road from the noise and pollution which is a result of heavy traffic. This effort will include the consideration of installation of whatever sound barriers or dense landscaping that may be appropriate to help the impacted neighborhoods regain the use and enjoyment of their property.

5. The City should study how traffic from Saratoga-Sunnyvale Road impacts the circulation of nearby local residential streets to determine feasible traffic control methods by which to minimize those impacts.

6. As a condition of City permit approval, if any further development of the area in the vicinity of the Argonaut Shopping Center takes place, the impact of increased traffic on Saratoga-Sunnyvale Road shall be studied and a plan for minimizing the traffic impact shall be developed. This might involve an access road paralleling Saratoga-Sunnyvale Road and providing access to Cox Avenue.

7. Pedestrian crosswalks and islands should be considered for Pierce, Brandywine and Blauer.

8. Bike paths should be placed on both sides of Saratoga-Sunnyvale Road.

AREA C, BLUE HILLS

The Blue Hills area is bounded by Prospect Road on the north, the proposed transportation corridor on the east, Cox Avenue-Wardell Road on the south and the Northwest Hillside Zone on the west. Residential development in this area has a density of approximately four units to the acre (R-1-10,000 & R-1-12,500). The area contains Blue Hills Elementary School on its eastern boundary. A commercial area, informally called the Saratoga Gateway, is located in the center of the Blue Hills area. Saratoga-Sunnyvale Road (State Route 85) traverses the center of this shopping area and goes on to form part of the boundary of areas A, B and E. Saratoga-Sunnyvale Road, Cox Avenue and Prospect are major arterials serving Area C. Arroyo de Arguello/Via Roncole and Seagull Way are the only designated collector streets in the area. The Southern Pacific railroad tracks and P.G.&E. towers cut diagonally across the area from west to east.

Although the Blue Hills area has a uniform residential density and a predominantly residential character, it is bisected by the commercial strip which extends from the intersection at Prospect in the north to the point where Saratoga-Sunnyvale Road crosses the Southern Pacific Railroad tracks in the south. The site on the southeast corner is developed as a mixed use planned development with 36,000 square feet of commercial space and 65 condominium townhouses. There is a similar mixed use on the west of Saratoga-Sunnyvale Road along the creek with 18,000 square feet of commercial space and 51 condominiums. The Azule Shopping Center abutting the railroad tracks has been remodeled and expanded with 40,000 square feet of commercial space.

In order to provide a positive and distinctive "gateway" to Saratoga, there should be an emphasis on strict design regulation and ordered open space enhanced by extensive landscaping. In time, this theme should be carried across to the southwest corner by insuring appropriate landscaping with the eventual use. Access to Saratoga-Sunnyvale Road should be controlled by tree-shielded frontage roads. The gateway area should be further delineated by the installation of landscaped median strips.

South of the commercial area, the east side of Saratoga-Sunnyvale Road between the railroad tracks and the Cox-Wardell intersection has been developed as residential, single-family homes (R1-12,500). Across Saratoga-Sunnyvale Road between the railroad tracks and Manor Drive, is a small parcel which abuts a medium density M-12,5 (R-1-12,500) single family residential development. Single family use of the parcel would protect the residential character of the adjacent area and form a clear boundary for the gateway commercial area on the north side of the Southern Pacific tracks, effectively confining the potential for strip development along Saratoga-Sunnyvale Road.

AREA C, BLUE HILLS

The Blue Hills area is short of recreation and open space. Blue Hills School facilities provide recreation opportunities for those east of Saratoga-Sunnyvale Road. The City owns the Azule Park site, abutting the school grounds on the east; however, the small orchard area provides some open space but little recreational use. Saratoga-Sunnyvale is an effective barrier in preventing those on the west side from using these facilities. The Specific Plan for the Northwest Hillside Zone acknowledges the need for a park west of Saratoga-Sunnyvale in designating a park on the Fremont Union High School District land. This should be provided for at the time this land is developed.

Access to Cox Avenue is controlled by reverse frontage (that is, homes are not built facing Cox) along the major portion of the street. This precludes many of the circulation problems created by increasing use of this cross-town access. New development in Areas A and B has increased traffic flows along Arroyo de Arguello/ Via Roncole. Completion of the road through the Parker Ranch should relieve some of this traffic pressure.

AREA C - GUIDELINES FOR AREA DEVELOPMENT

1. The gateway commercial area along Saratoga-Sunnyvale Road should be contained by the intersections of Prospect and the Southern Pacific Railroad tracks. Master planning for this gateway area will be done.

2. Action should be taken to enhance the appearance of the gateway area by improving the southwest corner of the gateway. Remodeling or redeveloping plans should include extensive landscaping and particular attention should be given to a parklike area on the corner.

3. The commercial development should be separated from traffic on Saratoga-Sunnyvale Road by tree-shielded frontage road wherever possible.

4. Landscaped center median strips should be installed on Saratoga-Sunnyvale Road from Prospect Road to Seagull Way to enhance the appearance of the gateway area and to discourage unsafe pedestrian crossings of Saratoga-Sunnyvale Road.

5. To maintain the medium density residential character of the adjacent area, single family residential densities should be extended to the site on the west side of Saratoga-Sunnyvale Road between the Southern Pacific Railroad tracks and Manor Drive.

6. Utility lines should be undergrounded along Saratoga-Sunnyvale Road.

7. The property behind the lumber yard should be developed with low intensity commercial or office use.

8. The Azule Park parcel should be retained for open space or park use. However, if this parcel is to be developed, it shall be developed as single family residential at the same density as the surrounding residential area.

9. Hillmoor and Kreisler Courts shall not be extended as residential streets, except, Hillmoor may be extended as an emergency access road.

10. Discourage the use of Arroyo de Arguello as an arterial street since it is designed primarily to be a collector street.

11. The scenic quality of the adjacent hills and ridge lines shall be preserved.

12. Potential flooding problems shall be mitigated at the time of new development including storm drain and culvert improvements. Mitigatin measures shall be funded by new developments which are responsible fc increased impervious surface and runoff.

AREA D, TRIANGLE NORTH

The northern boundary begins at the West Valley Corridor right-of-way and Prospect Road, to Johnson Avenue then north to Brookhaven Drive, to Saratoga Creek, then south along Prospect Road and east to Saratoga Avenue.

Excluding a parcel southwest of Prospect Road and Saratoga Avenue, which is in the City of San Jose, the eastern boundary follows Saratoga Avenue to the Southern Pacific Railway tracks.

The southern boundary extends along the Southern Pacific Railway tracks to Cox Avenue and east along Cox Avenue to the West Valley Corridor right-of-way then north to Prospect Avenue.

A retail commercial area, located on the south side of Prospect Avenue, extends from Lawrence Expressway to and includes the Big Tree Shopping Center (west of Saratoga Avenue).

Single family detached residences predominate in Area D with 1696 recorded as of June 1, 1980. The only condominium development, consisting of 165 units, is located on Saratoga Avenue, northeast of the West Valley Corridor right-of-way.

Professional and administrative buildings are located at the southwest corner of Saratoga Avenue and Cox Avenue. The vacant parcel to the immediate south was zoned professional and administrative in the 1974 General Plan. Future development of this parcel should be restricted to single story buildings, well landscaped and with adequately screened setbacks from the street. Adequate off-street parking to be provided.

There are two churches and one synagogue on Prospect Road. City parks in Area D are Brookglen, Kevin Moran and Congress Springs. Schools include Prospect High School, Hansen and Brookview Elementary Schools. The elementary schools currently are not operated as public schools. Since these school sites may no longer provide open recreational uses, Congress Springs park should be expanded.

A P.G.&E. substation, adjacent to the electrical transmission line running parallel to the Southern Pacific Railway, is located at the railway crossing and Glen Brae Avenue.

A Santa Clara County fire station is located at the Southern Pacific Railway crossing and Cox Avenue.

Triangle North is almost fully developed. Resolution of the West Valley Corridor right-of-way use is of primary interest.

AREA D, TRIANGLE NORTH

Preservation of Brookview and Hansen School sites for future public school use is desired, however, if the sites are sold, use of the land should be restricted to R-1-10,000 for both sites so that surrounding residential neighborhoods are not impacted.

Vehicle traffic has become a major factor in the residential areas, feeder streets and Saratoga Avenue. Land development is grossly affected by the capacity of the streets to move people and material. The principal streets that have borne the brunt of increased traffic are Prospect Road, Saratoga Avenue, Cox Avenue, Miller Avenue and Saratoga Creek Drive. Traffic control has been somewhat improved by the installation of stop signs.

AREA D - GUIDELINES FOR AREA DEVELOPMENT

1. Saratoga Avenue shall be maintained in a manner that will distinguish the residential character of the City from the vast commercial centers established at the north boundary. This gateway to the City should be attractively landscaped and posted with a suitable demarcation sign.

2. The West Valley Corridor right-of-way shall be designated as a public use corridor.*

3. Congress Springs Park should be extended into the West Valley Corridor right-of-way if it is not used for transportation purposes.

4. If residential development occurs in the West Valley Right-of-Way Corridor, it shall be compatible with adjacent neighborhoods. The City shall acquire easements for pedestrian pathways and bicycle trails.

5. The Hansen and Brookview sites shall be restricted to R-1-10,000 zoning if sold.

6. Underground utilities should be provided for future developments.

7. The 4.5 acres located at Saratoga Avenue southwest of Lawrence Expressway shall remain zoned R-1-10,000, single family detached residential.

8. The 11.2 acres, located at the southwest corner of Saratoga Avenue and Cox Avenue shall remain zoned Professional Administrative which would allow office and/or residential use. Future development of this parcel should be restricted to single story buildings, well landscaped with adequately screened setbacks from the street. Adequate off street parking shall be provided.

9. The City should advise LAFCO and the City of San Jose of its desire to annex the small parcel adjoining the service station at the southwest corner of Lawrence Expressway and Saratoga Avenue

10. Vacated school interim uses shall not create adverse impacts or excessive noise and shall provide adequate off-street parking.

* There is overwhelming opposition in Area D to roadway construction in the West Valley Right-of-Way Corridor. Light rail transportation should be considered. Since almost all of the corridor land has been acquired in Saratoga, Area D supports pedestrian pathways and bicycle trails and city park sites. Unified pedestrian-bicycle access could extend from Quito Road to Prospect Road, passing through Areas C, D and E by using the corridor.

11. A suitable street traffic control system shall be installed on Prospect Road for the safety of Prospect High School students.

12. If the West Valley Corridor right-of-way is reduced, multi-family residential zoning should be extended from the Vineyards south into that area with the provision of pedestrian and bicycle pathways.

AREA E, TRIANGLE SOUTH

Description:

Number of Dwelling Units in Area E

Type:	No:
Single-family dwellings	1696
Condominiums	71
Rental Apts./Duplexes	20
Total	1787

Area E is bounded by Cox Avenue and the Southern Pacific tracks on the north, Saratoga Avenue on the east and south, and Saratoga-Sunnyvale Road on the west. The dominant land use in Area E is low density, single family residential.

There are a few remaining vacant parcels in Area E along the east side of Saratoga-Sunnyvale Road. The majority of these vacant parcels are now orchards. Some of these parcels have recently been developed. One is Tract 6199 (16 lots) on Tricia Way. The other is a 4 lot subdivision, recently approved, at the end of Cunningham Place. The area contains two elementary schools: Argonaut, and St. Andrews; and Saratoga High School. The neighborhood includes two churches: St. Andrews Episcopal and Immanuel Lutheran. Existing parks are immediately adjacent in Area D. Area E is adequately served by open space and recreation areas in school playgrounds. These playgrounds, are dispersed enough to provide convenient recreation access to all neighborhood residents, their children and grandchildren.

There are two commercial centers in the Triangle South. One is on Saratoga-Sunnyvale at Blauer (Argonaut) and one at the intersection of Saratoga-Sunnyvale Road and Saratoga Avenue (Neale's Hollow). The second of these is traversed by Saratoga Creek with commercial uses north of the creek and professional uses designated for south of the creek. Behind this commercial-professional area are some multiple residential units. The multiple development has been fairly well limited by the single family development on the north side. The multiple development should be allowed to expand further on a project by project basis.

Open space in the southern portion of the Triangle is provided through the existing schools and the predominant large lot size. The adjacent mountains and the Saratoga Creek bed provide some open space. The use of a portion of the freeway right-of-way as a park (Congress Springs) accessible from the P.G.&E. right-of-way is a valuable addition to the Triangle South's environment. Even though this park and others are not in the area, proximity makes them readily available to all neighborhood residents.

AREA E, TRIANGLE SOUTH

The southern corner of the area should be reviewed as possible sites for additional multi-family housing units. The proximity of this area to public transportation, to Highway 9, to Saratoga Avenue, to the Village, to commercial and professional facilities, to libraries and churches make this a highly satisfactory area for such developments.

AREA E - GUIDELINES FOR AREA DEVELOPMENT

1. The southern corner of Area E should be reviewed as possible sites for additional multi-family housing units. The proximity of this area to public transportation, Highway 85 (Old Highway 9), Saratoga Avenue, the Village, commercial and professional facilities, and churches make this a highly satisfactory area for such developments.

2. A stoplight should be installed in the vicinity of Blauer and Saratoga-Sunnyvale Road.

3. The City owned open space at the intersection of Cox Avenue and Saratoga-Sunnyvale Road should be considered for commercial or multifamily residential development.

4. The West Valley Corridor right-of-way shall be designated as a public use corridor.*

* The freeway right-of-way should be preserved in its entirety for eventual use as a freeway or expressway.

AREA F, QUITO

The Quito area is bounded on the north and east by Quito Road, on the south by the Southern Pacific Railroad (SPRR), and on the west by Saratoga Avenue. The majority of the Quito area was subdivided in the late 1940's and early 1950's. The predominant zoning is R-1-10,000. In terms of land use, Area F is the most diversified in the City. Quito contains the City's only industry, the Paul Masson Winery. Along Saratoga Avenue is located one of the City's five neighborhood shopping centers which has recently been enlarged and is complete with a mall, two banks and a grocery store. Another of these local service centers is located on Quito Road near the railroad crossing. El Quito Park Elementary School, leased by the County for the multi-handicapped program, two churches, and one park also serve the residents of this area. Adjacent to the SPRR and the PG&E right-of-way is a portion of the proposed West Valley Freeway right-of-way. The major traffic carriers in this neighborhood are Cox and two which form its boundaries - Saratoga Avenue, and Quito Road.

While almost completely developed, the Quito area contains some planning problems. One of the most critical of these problems is evidence of declining maintenance in some of the older residential neighborhoods in the area. Evidence of poor structural maintenance and illegal conversions is compounded in many places by poor street maintenance and drainage problems. Strong neighborhood organizations, strict code enforcement and prompt City attention is needed to prevent these older neighborhoods from becoming areas of blight.

Use of the few vacant parcels remaining in this area will have a significant impact on the overall character of the area. One parcel has recently been developed as senior citizen condominiums. The remaining parcel is recommended for planned development, with uniform design. Both of these sites front on Saratoga Avenue between Bucknall and Cox Avenues. Consideration should be given to residential development on these sites which can serve the elderly. The site fronting on the southeast side of Saratoga Avenue between MacFarland and Cox should be developed with a combination of land uses including professional, administrative and multiple residential. In order to effectively regulate these mixed uses, a precise plan should be approved prior to development. One of the two service stations has been replaced with an office complex - opposite the Quito Shopping Center.

Except for the elementary school north of the SPRR tracks and a city park site at the El Quito Park School, open space and developed recreation area is very limited. This is particularly serious since residential densities here are among the highest in the city. The lack of developed recreation areas makes the creation of the pedestrian pathway and bicycle trails park link very important to this area. Through much of this area the PG&E right-of-way will have to be used; the City should obtain recreation trail

and pathway easements through the proposed freeway right-of-way property before development is permitted.

Two of the major traffic carriers form its boundaries. The most critical of these is Quito Road. This road is heavily used by students driving to West Valley College from the northeast. The County's improvement of the Lawrence Expressway to six lanes places additional pressure on Quito Road for through-traffic to Highway 9 (Saratoga-Los Gatos Road) and for traffic desiring access to Campbell and Monte Sereno. A study should be done of this area to determine methods to increase safety and improve traffic flow. Current traffic jams and high volumes of traffic along the length of Quito necessitate its being upgraded.

AREA F - GUIDELINES FOR AREA DEVELOPMENT

1. Expansion of existing industrial uses in the Quito Area should be closely reviewed and subject to strict design control.

2. The City should encourage neighborhood organizations, pursue strict code enforcement, and improve public facilities in the older higher density neighborhoods in this area.

3. The vacant parcel located on the southeast corner of Saratoga Avenue between MacFarland and Cox Avenue should be developed only under conditions of uniform design and with consideration given to combined land uses. The residents of Area F support subsidized senior citizen housing or single family residential use of this site. Development of the site may include professional and administrative office uses which minimize traffic and noise, either separately or in combination with residential uses upon the receipt of a use permit. Particular attention should be given to landscaping access, parking and site coverage. Another shopping center should not be constructed on this parcel.

4. All vacant residential parcels shall be developed at a density no greater than Medium Density Residential (M-10) with the exception of the 2.5 acre± vacant parcel near the southeast corner of the intersection of Saratoga Avenue and Bucknall Road. This site shall be zoned R-M-5000 P-C so that the design of any proposed project will be effectively controlled to ensure compatibility with adjacent single family residential development.

5. The City should investigate use of the P.G.& E. right-of-way as a link in the pedestrian pathways and bicycle trails linear park. Should portions of the proposed freeway right-of-way be developed, easements for the linear park should be obtained in advance.

6. The side of Quito Road should be beautified through regular maintenance of the existing landscaping and the addition of new landscaping. The present bicycle path should be repaved. Quito Road should be designated as a heritage lane from approximately Saratoga-Los Gatos Road to Pollard Road. No major improvements (street widening) to Quito Road from Saratoga Avenue to Pollard Road should be allowed except for alterations needed for public safety.

7. The property at the southeast corner of Saratoga Avenue and MacFarlan Avenue, currently occupied by the Paul Masson Winery, shall remain zoned industrial. Existing City ordinances shall be amended to provi for public hearings and notification of same prior to the issuance of permits for any future industrial development either through the use permit or design review process.

8. The El Quito Park should be purchased from the Moreland School Distri and maintained as a park since it is the only open space in a densely populated area of the City.

9. Noise and sanitation codes regarding the park and Quito Shopping Center areas shall be strictly enforced.

10. A pedestrian crosswalk should be installed from Paseo Lado to the Quito Shopping Center.

11. The roads in the Quito area should be brought up to minimum City standards.

12. Amend the existing Zoning Ordinance to require all new uses that serve alcoholic beverages to receive a conditional use permit prior to locating in a C-N (Neighborhood Commercial) District.

13. The utilities for all new building in this area are to be underground.

AREA G - FRUITVALE-SOBEY ROAD

The Fruitvale-Sobey Road area is bounded by Allendale-Quito-Pollard on the north, Quito Road and city limits on the east, Saratoga-Los Gatos Road to the south and Fruitvale Avenue on the west. One acre residential development predominates; however, since the last General Plan update, several hundred high density units have been built on the Odd Fellows property including approximately 150 subsidized units. There still remains considerable undeveloped land made up of rolling hills and chaparral. Any further high density development in this open land threatens to change the predominant low density single-family character of Area G.

Other land uses include two schools, Marshall Lane Elementary and West Valley College, two churches along Allendale and the Odd Fellows complex of buildings off San Marcos in the eastern portion of the Fruitvale-Sobey Road area. Much of Area G is included in the City's equestrian zone, which permits residents to keep horses on their property. The Fruitvale-Sobey Road area is encircled by arterials. Collectors within the area are Sobey Road and Chester/Ten Acres. The major traffic generator in the area is West Valley College in the northwest corner.

Future development of the Fruitvale-Sobey Road area should be restricted to very low density single family homes in order to preserve the character of the area and the strong wishes of the area residents. An important part of the orderly development calls for the City to change its policy regarding use permits or variances that would allow even further high density development.

There is no publicly owned open space or recreation areas in the Fruitvale-Sobey Road area. However, the existing orchards and large parcels associated with residential development reduce the need for public open space. The continued use of the Community Gardens, and the proposed equestrian trail, which may also serve as a hiking trail, could provide a valuable public recreation resource in this area.

The Fruitvale-Sobey Road area appears to be adequately served by arterials. Future traffic projections indicate that by 1990 Saratoga-Los Gatos Road, Quito Road and Fruitvale Avenue will be carrying significantly more traffic. Allendale and Fruitvale are already carrying substantial traffic loads. Plans to increase the capacity of Fruitvale, more safely, should be studied. The future need for improving Quito from Allendale to Saratoga-Los Gatos Road should also be studied. Current projections for State Highway 9 without the West Valley Freeway, indicate that Highway 9 will have to be made capable of handling average daily traffic of 30,000 to 45,000 by 1990. Any improvements should not be detrimental to the scenic quality of this highway.

AREA G - GUIDELINES FOR AREA DEVELOPMENT

1. The General Plan Map shall be modified to limit the future institutional use of the Odd Fellows property to those portions of the property already used for quasi-public facilities. The remainder of the property shall be designated Very Low Density Residential (R-1-40,000).

2. New development should be provided with adequate access to arterials but local access streets should be designed to prevent through traffic use.

3. The large parcel zoning of the Fruitvale-Sobey Road area reduces the need for public open space; the city might support an equestrian and hiking trail to provide some public recreation alternatives within the area. The City might investigate further permanent support of the community garden.

4. Fruitvale Avenue is presently a heavily travelled major road. Fruitvale is a dual roadway over only part of its length and residents are concerned about the safety aspects of the road in its current condition. They are also concerned about resolving the safety issue but consistent with the strong desire to maintain the scenic quality that currently exists.

5. Within the next decade, Quito Road from Allendale to Saratoga-Los Gatos Road (Route 9) should be studied to determine if any improvement is needed and the best way to protect the scenic quality of this thoroughfare.

6. Current State Highway traffic projections indicate that the use of Saratoga-Los Gatos Road (Route 9) will be increased by 1990. Any improvements needed should be made in such a way as to mitigate problems of adjacent land uses and to protect the scenic quality of this highway.

7. The intersection of Fruitvale and Burgundy should be reviewed for hazards, especially during right turns from Burgundy onto Fruitvale, making it dangerous for joggers and vehicles.

8. The side of Quito Road should be beautified through regular maintenance of the existing landscaping and the addition of new landscaping. The present bicycle path should be repaved. Quito Road should be designated as a heritage lane from approximately Saratoga-Los Gatos Road to Pollard Road. No major improvements (street widening) to Quito Road from Saratoga Avenue to Pollard Road should be allowed except for alterations needed for public safety.

9. Extensive landscaping should be required along the western portion of the Odd Fellows property near Chablis and Zinfandel Courts to buffer the residences in the area from the impact of new institutional development.

AREA H, FRUITVALE WEST

Fruitvale West is bordered on the north by Saratoga Avenue, on the east by Fruitvale, on the south by Saratoga-Los Gatos Road and on the west by Park Place. Fruitvale West is a mixture of residential densities and orientations, interspersed with some vacant land. Wildcat Creek and several smaller unnamed tributaries of Wildcat Creek meander through this area. Much of the core of the area is in orchard, but only one of these orchards is under Agricultural Preserve. Residential densities vary from R-1-10,000 (4 per acre) to R-1-40,000 (1 per acre). One of the large orchards is zoned Agricultural with one corner zoned Planned Community. The lowest density residential area (1 unit per acre) is encompassed by Montauk Drive, Fruitvale, Saratoga-Los Gatos to the back of the lots on Horseshoe Drive. This area is almost completely developed and is similar in character to the adjacent Fruitvale-Sobey Road area. The higher density single family uses extend about three-quarters of the way along Saratoga Avenue toward the Fruitvale intersection. The highest densities (R-1-10,000) are close to the Village, between Park Place and Lutheria Way, and tend to be oriented to the Village. The two units per acre development extends from Lutheria to the undeveloped parcels near the corner of Saratoga and Fruitvale Avenues. The Fruitvale West area contains one church, two schools: Sacred Heart and Redwood Junior High, the Civic Center, the Youth Center, the Senior Citizens Center, the Post Office, the Library, and one undeveloped park (Central Park) on Fruitvale adjacent to City Hall. The new library occupies a small percentage of this thirteen acre park, part of which is City orchard. As with the other areas, Fruitvale West is bounded by arterials; however, this area lacks through-collector streets.

Future development in the area should be limited to single family residential. The higher density (R-1-20,000) should be confined to the west side of Wildcat Creek and its major tributary. Flood plain zoning and protection should be observed in any development in this area. One acre single family residential density should be extended to the east bank of Wildcat Creek and its major tributary.

There is a shortage of public open space and recreation areas in the Fruitvale West area, particularly west of Wildcat Creek. As the orchards are developed, the absence of park areas will become more noticeable. The banks of Wildcat Creek and its tributaries should be protected for open space use wherever possible. Areas particularly prone to flooding might also be preserved and used for recreation purposes. Here the large private lots provide visual relief and meet personal recreation needs.

The Fruitvale West area is so well served by peripheral arterials that the need for a through-collector has been mitigated. Residents of the area express little concern for the inconvenience resulting

from the absence of a through-collector, and the Fire and Sheriff Departments report that the surrounding arterials provide sufficiently good access that a collector street is not necessary. Projections for average daily traffic on Saratoga-Los Gatos Road (Route 9) will probably require future attention to the intersection of Routes 9 and 85, Saratoga Avenue and Big Basin Way. Traffic drops off significantly on Saratoga Avenue north of Herriman Avenue. The major traffic generators, the churches, the college and high school, are south of or at Herriman Avenue. Therefore it is suggested that Saratoga Avenue be improved from Fruitvale to the intersection of Herriman Avenue. As part of the improvement, the paved area and moving lanes should be more clearly marked.

AREA H - GUIDELINES FOR AREA DEVELOPMENT

1. Future development in the Fruitvale West area shall be limited to single family detached residential uses. Areas of more than one unit per acre shall be confined to the west side of Wildcat Creek and its major tributary.

2. Flood Plain Zoning should be strictly enforced in the undeveloped area along Wildcat Creek and its tributaries.

3. To provide needed open space and passive recreation areas, the banks of Wildcat Creek, and its tributaries should be preserved as open space and developed with pathways wherever possible.

4. Saratoga Avenue should be improved from Fruitvale to Herriman Avenue. Improvements should include delineation of traffic and bike lanes, the pruning of trees and the improvement of safety along Saratoga Avenue.

5. Traffic projections for Saratoga-Los Gatos Road indicate that the use of Saratoga-Los Gatos Road (Route 9) will be increased by 1990. Highway 9 has been designated a scenic highway and therefore any future expansion should be actively discouraged. The City shall work with the State to ensure that needed improvements will mitigate problems created for adjacent land uses and to protect the scenic quality of this highway.

6. The City orchard land (Central Park) bounded by Wildcat Creek and Fruitvale and Saratoga Avenues, shall be designated as a heritage resource under the Heritage Preservation Ordinance.

7. If public ownership of Redwood School is not possible, restrict use of this property to residential development at densities and intensities no higher than adjoining R-1-40,000 residential development.

8. Vacant residential parcels shall be developed as single family residential at the same density as the surrounding residential area.

AREA I - GLEN UNA

The Glen Una area is bordered by Saratoga-Los Gatos Road on the east, the City boundary on the south and west and Madronia Cemetery on the north. Almost all of Glen Una is developed, or protected as open space. The dominant land use is single family residential which ranges in density from two units per acre to one unit per acre. The northern portion of Glen Una is relatively flat. However, the terrain becomes more steep to the south until, in some places, the City's maximum of forty per cent slope for developable sites restricts potential new development. The elevation of much of the southern portion of Area I is too high to be served by San Jose Water Works and is served by a private water company. County Sanitation District No. 4 sewer service extends throughout most of this area. All sites are served by electricity and telephone service. The Glen Una area contains the Sisters of Notre Dame Novitiate. In addition, there is a church and Madronia Cemetery. The area is served by unique open space and recreational opportunities -- the Villa Montalvo County Arborteum and Hakone Gardens. Eventually the City plans to expand Hakone Gardens by a little over an acre to provide additional parking. San Jose Water Works pumping station is located on Vickery Lane. Although much of the area immediately adjacent to the City is developed in residential uses, one of the City's Urban Service Areas abuts the Glen Una area at Bohlman Road. The headwaters of Wildcat Creek are found in Area I and meander through it.

Concern has been expressed in the area pertaining to the future development of vacant or underdeveloped parcels in the R-1-20,000 District (Low Density Residential) near its interface with the R-1-40,000 District (Very Low Density Residential), particularly in terms of traffic increases with future development. Factors such as slope, soil stability, rift zones, access and geologic problems should also be considered before development is permitted.

As with other areas, Glen Una is bordered by arterials on two sides. However, unlike most of the other areas, residents of Glen Una have only limited access to these arterials. The collector streets in the Glen Una area are north-south oriented and provide access to Villa Montalvo Arboretum and the Sphere of Influence -- Park/Hume, Piedmont Lane, Montalvo Road and Bohlman Road. The only east-west collector is Mendelsohn Lane. Piedmont Lane and Montalvo Road are designed and utilized as a one-way pair to accommodate traffic to and from Villa Montalvo Arboretum. Piedmont Lane is a private road maintained by area residents.

AREA I - GUIDELINES FOR AREA DEVELOPMENT

1. Residential development densities shall be as shown on the General Plan Map, however, if significant geotechnical or traffic problems could occur, it may be required to reduce densities.

2. Provide bike and walking paths wherever possible.

3. The City, in cooperation with the State, should draw up an overall landscaping plan for Saratoga-Los Gatos and Saratoga-Sunnyvale Roads including the planting of trees to break up the tunnel effect of sound barrier walls.

4. Safe access should be provided at Mendelsohn and Piedmont Lanes.

AREA J, THE VILLAGE

The Village is the historical center of Saratoga. Over time its function has changed, but the historic significance of the landmarks within it lend a rustic character and sense of the past of all of Saratoga. The Village area extends from Saratoga Creek on the north to Aloha Avenue and Madronia Cemetery on the south. Its eastern boundary is Saratoga-Los Gatos Road. The western boundary is Madronia Cemetery, extended to the rear lot lines at the end of Pamela Way and across Congress Springs Road to Saratoga Creek.

As the historical center of Saratoga, the Village contains many important landmarks of the past: Saratoga School, King Residence (Caldwell) on Big Basin Way, Henry Residence at 6th and Big Basin Way, the clapboard summer cottages on Oak Stree, the Village Library, the old Garden City Bank on Big Basin Way, and the McCarthy Block (Kocher). More recent commercial development and uses sometimes overwhelm these important cornerstones, but the personality they lend remains.

Today the Village area includes the Village branch of the County Library, the Saratoga Fire District's Main Fire Station, the Saratoga School on Oak Street and the adjacent playgrounds, a convalescer hospital, several new commercial buildings since the last General Plan review, and a variety of densities of residential land uses, from single family residences through apartments and condominiums. Three of the four possible parking assessment districts have been formed on both sides of Big Basin Way, and a fourth parking assessment district is contemplated between the shops and the creek. Greater automobile dependence, residential development and increased recreation orientation have also increased the traffic volumes on Big Basin Way and Saratoga-Los Gatos Road.

Residential land uses in the Village range from R-1-10,000 through multi-family developments of R-M-3,000 and R-M-4,000. There are also apartments over and adjacent to shops on Big Basin Way. The strip behind the commercial area, facing onto Oak Street and St. Charles St. was designated for higher density residential uses in previous General Plans, and consideration for greater density for this area and at the end of Big Basin Way should be involved in this General Plan. Currently, this strip is occupied by old summer cottages interspersed with an occasional Victorian gingerbread, and with townhouses and apartments. Almost all of these lots are on considerable slope and are capable of supporting multi-level structures. Oak Street/St. Charles Street appears to have been designated as the boundary between the more intense commercial-professional-residential uses of the Village and the lower density, single family uses of surrounding Saratoga. In keeping with this function, the area between the southside of Oak Street/St. Charles Street and the north side of Aloha Avenue are zoned R-1-10,000 and R-1-15,000.

AREA J, THE VILLAGE

Today the commercial area of the Village extends from just east of Saratoga-Sunnyvale/Saratoga-Los Gatos Roads, between the Saratoga Creek and just south of Oak Street, westward to the end of Big Basin Way beyond Sixth Street, with Community Commercial (C-C) and Visitor Commercial (C-V). Within the Visitor Commercial District condominiums are allowed with a use permit and this area should be considered for further condominium development to complete the use of the area.

Big Basin Way, which traverses the Village commercial area, is a local arterial and a State Highway (Route 9). It is complemented by the convergence of three of the City's six arterials (Saratoga-Sunnyvale Road (Route 85), Saratoga Avenue, and Saratoga-Los Gatos Road (Route 9) at the east end of the commercial area. Within the Village access to these arterials is provided by four collector streets; three are generally east/west (Third, Fourth, and Sixth Streets) and one is generally north/south (Oak Street/Bohlman Road).

The variety of design and economic problems of the Village are discussed in the non-adopted Special Area Plan for the Village. In the General Plan, the concern is focused on general land use, circulation and other related problems to the various General Plan Elements; and general policies and proposals for resolving these problems. The Special Area Plan should address them more specifically.

Over the years, the Village commercial area has been permitted to spread, extending the length of Big Basin Way as Visitor Commercial. Even though four blocks may not seem an excessive distance, the bend in Big Basin Way at Fifth Street provides a visual barrier, which makes the street seem longer and possibly out of sight of the main commercial section of the street. As advocated in the last General Plan, the commercial development on Big Basin Way should be confined to the area between the intersection of Big Basin Way at the east end of the street, and Fifth Street on the west, with the exception of the commercial uses already in existence past Fifth Street.

At its eastern end, the existing commercial-professional uses on the west side of Saratoga-Sunnyvale Road from Brookwood Drive extended to Oak Place should not be permitted to extend further. In addition, the mix of residential and commercial, with apartments over shops and condominiums, should be encouraged in the Village to stimulate community activity and provide a unique housing market for people who enjoy living close to the commercial and community center, and with a pedestrian focus along Big Basin Way.

AREA J, THE VILLAGE

The Village has inherited some difficult circulation problems which defy easy solution. Big Basin Way currently has parking on both sides and two moving lanes of traffic. Turning and parking movements frequently slow through-traffic and obstruct peak hour flows along this major access to the Sphere of Influence and park and recreational areas in the Santa Cruz Mountain area. Examination has revealed that there are no acceptable alternative streets or routes to alleviate traffic problems on Big Basin Way. A modest alternative would be to redesign the street to create two through, unobstructed traffic lanes. This will assist in removing the parking from Big Basin Way and encourage the use of the parking assessment district areas. Also, stop lights might be installed at Fourth Street and Big Basin Way, and Oak Street and Saratoga-Los Gatos Road, to assist with the slowing of fast moving vehicles in the Village.

A second major circulation problem in the Village results from shoppers arriving in the Village by car. Some additional parking areas have been provided by recent commercial developments. The final area available for parking would be Parking Assessment District Three and with City assistance, the critical parking problem would be assisted. This area would provide approximately 160 spaces, not only for community shopping-service function, but as an attractor of tourists and shoppers from beyond Saratoga. There are few vacant lots remaining in the Village, however by orienting buildings to both Big Basin Way and the parking district with arcades behind, shopping traffic can be encouraged off Big Basin Way, therefore freeing the street for through traffic.

In order to preserve the unique character of the Village, the old summer houses on Oak Street and St. Charles Street should be retained. In places where this is not feasible, new buildings should blend into and reinforce the clapboard summer cottage appearance of the area. The interface of densities along Oak Street/ St. Charles Street is not ideal; therefore, all development on the north side should be reviewed with an eye to its impact on the single family units on the south side.

The Village Area is served by three parks: one adjacent to Saratoga School, one across Saratoga Creek at Fourth Street in Area B, and an island of open space at the intersection of Big Basin Way and Routes 85 and 9. These areas, plus the natural setting of Saratoga Creek, and with the proximity of Hakone Gardens and the mountains, provide adequate open space and recreational alternatives for the residents in the Village Area.

AREA J - GUIDELINES FOR AREA DEVELOPMENT

1. Develop a Specific Plan for the Village incorporating the previous Village Design Plan, the Village Task Force Report, and the comments from the report of Area J's General Plan Citizens Advisory Committee.

2. Big Basin Way should be redesigned to provide turning lanes and better traffic control, including cross walk at 5th Street and traffic light at 4th. A paved and properly designed turn-around should be located at the end of Big Basin Way past 6th Street. The speed of traffic should be regulated in the Village on Big Basin Way, Oak Street and Saratoga-Los Gatos Road.

3. Formation of Parking Assessment District No. 3 should be encouraged.

4. The retention of Saratoga School on Oak Street as a functioning educational institution is primary, however, any modifications should preserve the site and school building for a future use which will not adversely affect the residential character of the neighborhood.

5. The Village should be preserved and promoted as an historical area with maintenance of existing historical or unique landmarks being encouraged by City ordinance. Care should be exercised with the use of materials and colors.

6. The Village should be landscaped as a whole with convenient benches, kiosks and other conveniences located at strategic areas.

7. Encourage development of types of establishments with structures designated to maintain a "country" atmosphere. All new structures in the Village should be designed to promote an historic area of the City.

8. Encourage commercial uses that generate sales tax revenue in the Village. Encourage "bed and breakfast" establishments. Such establishments should provide adequate security protection for their facilities.

9. The interface of multiple units and single-family residential units on two sides of Oak Street should be carefully regulated to protect the character of the adjacent single-family residential area to the south.

10. Continue the underground program for all utilities and street lighting program to the end of Big Basin Way and at Oak Street.

11. Encourage the Heritage Lane Program for the area, and to include such early streets as Big Basin Way, Oak Street, St. Charles Street, Third Street, Fourth Street, Fifth Street, and Sixth Street.

12. Retain the historical residences where possible in the Village and retain historical buildings from out of the historical Village area even if requiring moving buildings to Village area to preserve and use.

13. Do not use Oak Street as alternative circulation to relieve Big Basin Way except in emergencies. Saratoga School, as the historic school site, fronts on Oak Street and is too narrow to accept heavy or one-way traffic for the safety of the school students.

14. Commercial areas of Areas E and H adjacent to Area J might be considered as part of Area J for future General Plan Reviews. This would assist with the overall commercial program of the Village area.

15. Development in the Village shall be designed to minimize noise and other disruptive influences.

16. Portions of the Village south and west of Fifth Street on Big Basin Way should be of a density no greater than other condominium projects in the Village area and should include high quality condominimums and apartments along with small commercial shops. Existing commercial developments should be allowed to remain.

17. In general, commercial and multifamily development should be limited to that area of the Village between Saratoga Creek and Oak Street. Multi-family development may also be allowed along the boundary of this area.

18. Encourage a mixed use of residential above commercial use as a possible solution for multiple housing and with this process by use permit procedure.

AREA K, SUNLAND PARK

The Sunland Park area includes an area of approximately 53 acres bounded on the west by Quito Road, on the south by McCoy Avenue, on the east by Villanova, and on the north by the rear lines of properties on the north side of Baylor Avenue. The area bears the residential designation of Medium Density Residential (M-10).

Sunland Park is a neighborhood of 200 single-family homes built in the 1950's. Homes and landscaping are mostly well maintained. Being relatively moderately priced, the area's homes offer affordable housing for families, senior citizens, young couples, divorced and single people. Because the homes are very moderately priced for Saratoga, approximately 15% of the homes are rental homes.

Although completely developed, the Sunland Park area contains some planning problems. These problems include evidence of declining maintenance in a few of the homes and some code violations. These problems are not by any means unique to the rental homes, but such problems are more common to them. Most of the homes have been well maintained and the owners of these homes feel very strongly that every home should show a reasonable degree of maintenance and care.

The owners of the few homes that do not exhibit a reasonable degree of maintenance, care, and appeance should take steps to make the improvements. Recognizing that some owners need encouragement to take these steps the neighborhood organization must remain strong and continue its thus far successful efforts in improving the neighborhood association as it has all along, toward achieving this end. The City and the neighborhood organization working as partners have already produced substantial area improvement, but more remains to be done.

The neighborhood association may not be successful in bringing all the homes up to a level of reasonable maintenance, care and appearance despite its best efforts. When this occurs, the City should take appropriate measures against any owners of homes exhibiting a callous neighborhood disregard for a reasonable degree of maintenance, care, and appearance. If such actions are not taken the area will decline and eventually show evidence of blight.

Open space and developed recreation areas are non-existent in this area. It is therefore essential that a pedestrian pathway and bicycle path be developed across Quito Road from this area into the center of Saratoga. This would allow access to El Quito Park, the library, Montalvo and other recreation available in Saratoga.

AREA K, SUNLAND PARK

The major traffic carriers in the Sunland Park area form its boundaries. The most critical of these is Quito Road. Quito Road is heavily used by commuters and students driving to West Valley College. A center turn lane (third lane) on Quito Road from Cox Avenue to McCoy Avenue should increase the flow of traffic and safety through the area. Newly painted crosswalks at McCoy and Quito and Paseo Lado and Quito would facilitate bicycle and pedestrian crossings of Quito Road.

The side of Quito Road should be beautified to upgrade the present appearance of this portion of the road. The trees and pyracantha adjacent to the "Quito" fence should be trimmed on a regular basis with the fence repaired where needed. The present bicycle path should be repaved. Appropriate new landscaping should also be put in on the side of the road. Quito Road should be designated as a Heritage Lane to permanently retain its unique and scenic qualities.

AREA K - GUIDELINES FOR AREA DEVELOPMENT

1. The City should restripe the crosswalks at McCoy and Quito and Paseo Lado and Quito.

2. The City should study the feasibility of painting a center turn lane down Quito Road through this area. If it is determined that such a center turn lane will indeed increase traffic flow and safety on Quito, such a lane should be installed. Staff should study the feasibility of a left hand turn lane on Quito for left hand turns on to Paseo Lado. This will eliminate the present safety hazards and bottlenecks that now exist when such turns are made.

3. The side of Quito Road should be beautified through regular maintenance of the existing landscaping and the addition of new landscaping. The present bicycle path should be repaved. Quito Road should be designated as a heritage lane from approximately Saratoga-Los Gatos Road to Pollard Road. No major improvements (street widening) to Quito Road from Saratoga Avenue to Pollard Road should be allowed except for alterations needed for public safety.

4. The feasibility of designating Baylor Avenue and McCoy Avenue as City arterials or local collectors should be studied.

5. Sunland Park's existing neighborhood association should continue to be encouraged in its efforts to upgrade and maintain neighborhood appearance. The City should pursue strict code enforcement and improve public facilities in this area.

AREA L, KENTFIELD

Area L, Kentfield, is bounded on the north by the Southern Pacific railroad tracks, West Valley Transportation Corridor and the PG&E right-of-way, on the west by Saratoga and Fruitvale Avenues, on the south by Allendale and Pollard Road, and on the east by San Thomas Creek. Quito Road forms westerly boundaries for a small portion of the area and Vasona Creek, an all-year creek of special environmental value, connects to Wildcat Creek in the northeastern corner of the planning area.

This area is almost completely developed. The northern and eastern portions of this area have predominant quarter-acre (R-1-10,000) zoning. The more recently developed southwest portion has half-acre (R-1-20,000) zoning, and is separated from the older residential area by an intermediate portion that has one-third acre (R-1-15,000) zoning.

Without exception, the land here is developed for single-family detached residential use. To preserve the area's integrity it is essential that this low density single-family detached residential character be maintained throughout the entire area.

The only major underdeveloped sites are adjoining parcels at the southeast corner of Saratoga and Fruitvale Avenues. Their development will be a major factor in determining not only the overall character of this portion of the planning area, but also the additional traffic at, and the future appearance of, this congested intersection.

To maintain cohesiveness of this planning area, future development of these parcels shall be low density single-family detached (R-1-20,000), as designated in the 1974 General Plan. This density would avoid aggravating an already serious traffic and congestion problem at the intersection. Ronnie Way shall not be developed through to Saratoga or Fruitvale Avenues, thereby preventing intrusion of heavy traffic into the area's residential streets.

The development of these parcels will have a significant visual effect. The pleasant open space look which these orchards have afforded the City should be preserved, insofar as possible, through attractive landscaping and adequate setbacks in conjunction with any development of the sites.

The major traffic carriers which form the boundaries of the Kentfield area create serious planning problems. Saratoga Avenue, Fruitvale Avenue, Quito Road and Allendale Avenue are heavily travelled by West Valley College students and residents of the City. Bicyclists and pedestrians also use these routes but are not well accommodated. Adequate pedestrian pathways and bicycle trails should be completed wherever possible along these routes.

AREA L, KENTFIELD

Many intersections are impacted by the traffic generated by West Valley College, including Saratoga/Fruitvale, Fruitvale/Allendale, Quito/Allendale and Quito/Pollard. The safety of pedestrian and bicycle traffic at these intersections is not resolved.

Adjacent to the railroad and utility right-of-way which form the northern border of the area is a portion of the proposed West Valley Corridor right-of-way. Our area recommends that this land be used for a combination of open space, linear park and single-family dwellings. Adequate provisions should be made for pedestrian pathways and bicycle trails.

Gardiner Park is a City park on the north side of Wildcat Creek at Portos near Harleigh. No further development of the park is necessary.

AREA L - GUIDELINES FOR AREA DEVELOPMENT

1. Future development in the Kentfield area shall be limited to single-family detached residential zoning. P.D. zoning, condominiums, townhouses or apartments shall not be permitted in this planning area.

2. Future development of the adjoining parcels (15.1 acres) at the southeast corner of Saratoga and Fruitvale Avenues shall be limited to low-density single-family detached residential (R-1-20,000).

3. Any development of the adjoining parcels at the southeast corner of Saratoga and Fruitvale Avenues shall include appropriate landscaping and setback requirements so as to preserve the open space appearance of these underdeveloped sites.

4. Continued effort shall be made to reduce traffic volumes in this planning area.

5. The West Valley Corridor right-of-way shall be designated as a public use corridor.*

6. Circulation should be improved throughout the planning areas for pedestrians and bicyclists. Quito Road should have a bicycle path completed along its length. Allendale should have a bicycle path completed along its length and the pedestrian route should also be completed where there is space. The Fruitvale bicycle route should be widened, improved, and a pedestrian route provided.

7. New lanes of traffic should not be added to any through streets.

8. The side of Quito Road should be beautified through regular maintenance of the existing landscaping and the addition of new landscaping. The present bicycle path should be repaved. Quito Road should be designated as a Heritage Lane from approximately Saratoga-Los Gatos Road to Pollard Road. No major improvements (street widening) to Quito Road from Saratoga Avenue to Pollard Road should be allowed except for alterations needed for public safety. Native oaks shall be planted along the length of Quito Road wherever they have been removed. The grafted walnut trees along Quito in this planning area will require eventual removal and preparation should begin for appropriate native walnut or oak replacement trees.

9. Quito Road and Allendale Avenue shall be considered for high priority in the City's underground power conversion program.

* The area supports the use of the West Valley Corridor for a combination of low-density single family detached residential uses, linear park and open space. Provisions should be made for pedestrian pathways, bicycle trails and natural landscaping.

10. The creeks of this planning area are San Tomas, Wildcat and Vasona. Projects along these creeks shall be required to stabilize creek banks with appropriate vegetation and to restore the tree overstory.

11. Gardiner Park should have no additional services and/or facilities

COUNTY SANITATION DISTRICT NO. 4
OF SANTA CLARA COUNTY

100 East Sunnyoaks Avenue
Campbell, California 95008
Telephone 378-2407

January 13, 1983

City of Saratoga
Planning Department 13777 Fruitvale Ave.
Saratoga, CA 95070

Attn Mr. Michael Flores

RE Housing Element

Gentlemen

In 1981, the staff of this office studied the potential for growth within Campbell, Los Gatos, Monte Sereno, and Saratoga, with the assistance of the staffs of these cities. At that time, it was determined that the portion of Saratoga within Sanitation District 4 had a growth potential of 619 additional residences. In short telephone conversations with Mr. Michael Flores of your office I was informed this may be increased by 20% or approximately 120 units.

The 1981 study indicated the overall growth potential for all the cities was 5,000 residential units, over the next 20 years. Treatment plant capacity for the area is being purchased on the basis of that estimate. Another 120 units, however, is not consequential; as no one expected the estimate to be within 2%.

Very truly yours,

Preston R. Nichols

Preston R. Nichols
Assistant District Engineer

PN/ch

RESPONSES TO LETTERS COMMENTING ON THE
DRAFT HOUSING ELEMENT/E.I.R.

1. State of California -- Office of Planning and Research

   No response required.

2. Santa Clara County Sheriff's Department

   Comment of minimal impact on Sheriff's Department noted; no response required.

3. Santa Clara Valley Water District

   Comment of minimal impact on flooding or District facilities noted; no response required.

4. County Sanitation District No. 4

   Comment of minimal impact on treatment capacity noted; no response required.

Memorandum

TO: Lt. Houston

FROM: Sgt. Marburg

SUBJECT: CITY OF SARATOGA ENVIRONMENTAL IMPACT REPORT

DATE: 3-22-83

This report is primarily concerned with commercial and housing unit increases and their impact upon the city of Saratoga for the next five years.

Based on the industrial and commercial lands available it is projected that 210 basic industry and 908 service industry jobs will be created between 1982 and 2005. It is likely most of these jobs will be filled by people who do not reside within the city.

A Housing Needs Determination Report submitted by ABAG in 1981 indicated that Saratoga would need 469 new housing units by 1985. After some revision of the report and aquisition of the Sunland Park area through annexation by the city, it has been suggested that only 258 housing units are necessary.

Traffic growth has been projected at 10,000 to 11,000 average daily trips per day. The report indicates the increase in traffic will not have an adverse impact over all. A 1-2% increase in traffic for all uses spread out over the whole city is anticipated.

Impact on Public Services Statement:

> "Development of vacant parcels will require the increase of Fire and Police services but only minimally especially since infill parcels will be a focus for higher density. New roads and increased traffic will increase need for maintenance."

Goals and Policies as established by the General Plan Citizens Committee in chapter 2 of Appendix 3, refers to some particular actions that should be taken by the city that may affect the Sheriff's Department but only to a minor degree, such as; parking, bicycle lane ordinances, etc..

All areas that I believe to be of concern to the Sheriff's Department have been tabbed with an orange metal tab.

In summary, the overall impact upon the Sheriff's Department should be minimal and can be absorbed by the existing Patrol force. The greatest impact will be upon the traffic units.

FM:jg

Santa Clara Valley Water District

5750 ALMADEN EXPRESSWAY
SAN JOSE, CALIFORNIA 95118
TELEPHONE (408) 265-2600

RECEIVED
MAR 23 1983
PLANNING POLICY ANALYSIS

March 21, 1983

Mr. R. S. Robinson, Jr.
Director of Planning and
Policy Analysis
City of Saratoga
13777 Fruitvale Avenue
Saratoga, California 95070

Dear Mr. Robinson:

Subject: Draft Housing Element and Environmenatal Impact Report

We have reviewed the above subject matter and it does not appear that implementation of the housing element will have significant effect on flooding or on District facilities.

Sincerely yours,

Dr. Bernard H. Goldner
Environmental Specialist
Project Development Branch

APPENDIX 2

LIST OF PERSONS, ORGANIZATIONS AND PUBLIC AGENCIES
COMMENTING ON DRAFT HOUSING ELEMENT/E.I.R.

1. State of California -- Office of Planning and Research
(Letter dated April 18, 1983)

2. Santa Clara County Sheriff's Department
(Letter dated March 22, 1983)

3. Santa Clara Valley Water District
(Letter dated March 21, 1983)

4. County Sanitation District No. 4
(Letter dated January 13, 1983)

Open Space Element

City of Saratoga

Planning Commission Recommended Approval on 7/14/93.

Adopted by City Council 11/17/93

City Council

Mayor Karen Tucker

Karen Anderson

Ann Marie Burger

Willem Kohler

Victor Monia

Open Space Task Force

F.L. Stutzman	Former Mayor, City Council
Linda Davis	Heritage Preservation Commission
Fran Franklin	Parks and Recreation Commission
Christie Jameson	Finance Advisory Committee
Gillian Moran	Planning Commission
Stan Bogosian	Area Resident - Village
Jan Garrod	Area Resident - Unincorporated
Betty Hodges	Area Resident - Montalvo
Sally McElravey	Area Resident - Golden Triangle
Ann Waltonsmith	Area Resident - Foothills

City Staff

Harry Peacock	City Manager
Paul Curtis	Community Development Director
George White	Associate Planner

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Attached Maps

General Plan Map

Existing Open Space Map

Sphere of Influence Map

Ridgeline and Watercourse Map

Roadway and Gateway Map

Regional Trail Network Map

Trail System Map

Appendix

National Recreation and Park Association Standards, 1990

Open Space Assessment Survey Questionnaire and Results

INTRODUCTION

In 1970, the State Legislature added Open Space to the list of mandatory General Plan Elements. The legislative intent was to ensure that cities and counties recognize that open space land is a limited and valuable resource, which must be conserved wherever possible. Every local jurisdiction is required to prepare and carry out an Open Space Plan which, along with State and regional Open Space Plans, will achieve a comprehensive program to preserve and enhance open space.

The City of Saratoga adopted its Open Space Element on August 7, 1974 in conjunction with the 1974 General Plan. The Element was last updated in 1981.

The City's connection to the land and to the natural environment has a lengthy history. The City was founded and based on the lumbering and wood product industry, later evolving as an agriculture, resort and artist center, all well tied to and based on the resources and the beauty of the natural environment. In the latter part of this century, Saratoga became a single family, residential community. The City has been able to retain its identity and uniqueness by controlling the density and intensity of development, and by preserving the greenery of private and public gardens and yards, parks and hillside open spaces.

However, the continuing and rapid urban growth in the Bay Area affects Saratoga as well. The City's valley floor and foothills are dominated by development. Very few orchards and minimal agricultural lands have survived as reminders of the City's past. Due to the limited land available in the valley, development has been slowly encroaching into the hillsides and endangering this last remaining natural resource.

The City is facing continuous development pressures. The reality of increasing demands for housing and rising land values requires the City to reaffirm and clearly state its goals and policies regarding its open space, and decide on the character and quality of life for the community in the future.

The City of Saratoga has recently confirmed the community's appreciation and desire to preserve and enhance the City's existing character and open spaces in and around the City, through a community survey. As a follow up to this survey, the City Council decided to examine the City's open space policies and to revise and update the Open Space Element to reflect the current community needs.

An Open Space Task Force was formed by the City in October 1990, to study open space conservation issues, formulate preservation policies and suggest implementation programs to accomplish and carry out the City's goals preserving and safeguarding its natural resources.

PUBLIC PARTICIPATION

During February and March 1990, the City conducted an open space assessment survey of Saratoga's residents. The purpose of the survey was to identify the community's current and future open space needs and assess residents' interest and willingness to pay for the acquisition and preservation of open space and parkland.

The survey results indicated strong community support for the preservation and acquisition of open space and parkland. These results confirm a long-term commitment and desire of Saratoga's community to preserve the natural beauty and the quality of life which characterize Saratoga.

Following the survey, the City Council appointed an Open Space Task Force consisting of five residents representing different geographic areas of the City, four representatives of the Planning, Heritage Preservation, Parks and Recreation Commissions and the Finance Committee, and the Mayor. The Task Force studied the open space issues and formulated policies and implementation programs for preservation, protection and acquisition of open spaces. The policies and programs suggested by the Task force are incorporated into this Open Space Element.

After the completion of the draft element, public hearings were held by the Planning Commission and the City Council to allow additional public review and comment.

OPEN SPACE DEFINED

The definition of open space varies in different communities and may often change, as it is highly subjective. The residents of Saratoga, according to the 1990 community survey, perceive open space as a combination of many elements.

The State of California requires each local government to have an open space plan. Government Code Section 65560(b)1 defines open space as "any parcel or area of land or water which is essentially unimproved and devoted to an open space use and which is designated on a local, regional or state open space plan". Open Space includes, but is not limited to, the following:

- Open space for the preservation of natural resources, including, but not limited to, parks, recreation areas, areas required for the preservation of plants and

animal life, habitat of fish and wildlife species, areas required for ecologic and other scientific study purposes, water courses, riparian corridors, watershed lands and utility easements.

- Open space used for the managed production of resources, including but not limited to, forest land, rangeland, vineyards, pastures, agricultural lands, and areas of economic importance for the production of food or fiber, areas required for the recharge of groundwater, streams, and areas containing major mineral deposits.

- Open space for outdoor recreation, including but not limited to, parks, recreation areas, areas of outstanding scenic, historic or cultural value, areas particularly suited for park and recreational purposes, access to water courses and areas which serve to link major recreation and open space areas, utility easements, trails and scenic roadways.

- Open space for public health and safety, including but not limited to areas which require special management or regulations because of hazardous or special condition such as earthquake fault zones, unstable soil areas, flood plains, watersheds, areas presenting high fire risks, areas required for the protection of water quality and water reservoirs and areas required for protection and enhancement of air quality.

- Open space for preservation of scenic viewsheds, including but not limited to, areas of natural scenic views, ridgelines, hillsides, valleys, areas with natural vegetation, orchards and roadway scenery.

Within the City of Saratoga and its Sphere of Influence, there exists a diversity of open space lands which fall into each of these categories. A majority of the open space consists of hillsides and mountains in the southern and western areas of the City and Sphere of Influence. Most of this land is undeveloped and undisturbed. Small neighborhood parks and school sites within the City limits, serve the community. These parks are primarily located along the valley floor and in the foothill areas.

OPEN SPACE EVALUATION CRITERIA

The following standards have been established to assist the City in evaluating parcels for open space value. Such an evaluation does not imply increased public access. It is intended to provide the City with objective criteria on open space land that are consistent with the goals of the General Plan. Criteria for open space evaluation include, but are not limited to, the following:

Natural Resource Lands. Non-urban areas serving various purposes including:

1. Providing habitat and preserving plant and animal life, including habitats for fish and wildlife.

2. Serving ecological and other scientific studies and environmental education.

3. Generating oxygen, purifying air and water while not producing air pollutants.

4. Conserving water and soil.

5. Maintaining ecological balance.

6. Maintaining genetic diversity of plants and wildlife species.

7. Protecting watershed and water resources to ensure water supply and water quality.

Production of resources. Areas of economic importance for the production of food and fiber and where appropriate, production of minerals and areas required for recharge of ground water basins, including:

1. Agricultural and grazing lands.

2. Areas containing major mineral deposits.

3. Cultivated lands or orchards, vineyards or tree farms.

4. Forest land.

5. Rangeland.

6. Marshes, rivers and streams for management of commercial fisheries.

Outdoor recreation. Land providing room for a variety of passive and active recreational pursuits and offering important opportunities for the fulfillment of human and psychological needs, including:

1. Areas of outstanding scenic value.

2. Areas of historic and cultural value.

3. Accessible areas particularly suited for parks and recreation purposes such as hiking, riding, biking, swimming, tennis, ballfields and more.

4. Areas providing access to and links between major recreation, cultural and open space reservations, including trails, utility easements, banks of rivers and streams and scenic highway corridors.

5. Areas with inherent qualities that humans find visually pleasing, beautiful, relaxing, stimulating or enjoyable.

Public Health and Safety. Parcels which pose a hazard to the public including:

1. Slopes over 30 percent.

2. Fault zones and the land on either side of known fault zones.

3. Areas of geologic instability.

4. 100 year flood plains.

5. Areas of high fire danger.

Community viewsheds. Parcels which contribute to the perception of open space. Such perception should not depend on parcel size.

SCENIC OPEN SPACE CLASSIFICATIONS

A scenic open space classification system is used by the City to assist in the identification and evaluation of valuable scenic lands.

Viewscale. A three-level scale has been adopted to classify scenic open spaces: microscale, intermediate and macroscale.

Microscale Open Space - Small, intimate open spaces are defined as microscale open spaces. The observer will experience views up to 300 feet. The views and attention are focused on details of forms, color, texture and foreground objects.

Intermediate Scale Open Space - Areas ranging from 5 to 50 acres, identified by the sense of openness in the middle ground, with definite background limit (such as parks, or school sites) are defined as intermediate open spaces. Microscale views might exist along with the intermediate views.

Macroscale Open Space - Lands of extensive openness, focused on grand vistas, are defined as macroscale open spaces. Undeveloped hillsides are an example of macroscale open spaces. Microscale and intermediate scale open spaces might exist within the macroscale views.

Intensity of Improvements. Scenic open spaces can also be classified by the level and intensity of man's imprint.

Natural Environmental Views - This category includes topographic and geological features (ridgelines, hillsides, valleys, creeks and faults, landslides, floodplains), and botanical features (trees, native vegetation).

Landscaped-Designed Views - Housing environs, roadways, trails, gardens and school sites are examples of landscaped designed views.

Manmade Unenhanced Views - This category includes manmade unenhanced views such as utility easements.

OPEN SPACE LANDS INVENTORY

The City's existing open space lands are diverse in scale, use and level of improvement. While most of the open space in the hillside is characterized by undeveloped and undisturbed land, the typical open spaces in the foothills and valley floor are landscaped and designed. The open space inventory is described and categorized in this chapter.

Dedicated Open Space Lands. This category includes parcels and easements dedicated as private or public open space, parks or scenic/open space easements. Most of the dedicated lands were acquired through subdivision approvals. These lands are designated as open space and are considered protected as such. This category includes over 250 acres of dedicated open spaces and easements.

Agriculture Preserve under Williamson Act Contracts. In the City there are a number of agriculture sites of varying sizes, which are protected and restricted to agricultural or open space use only, as defined in the specific Williamson Act contracts. These lands add not only to the perception of open spaces within the City, but also serve as a vital link between the modern City and its agricultural past.

Land area of agricultural lands under Williamson Act contracts total over 200 acres. This figure includes approximately 100 acres of agricultural lands where the owners have requested non-renewal of the Williamson Act contract. In those cases the contract will expire ten years from the non-renewal request date. At that time, the land may be developed in accordance with the standards of the zoning district in which the land is located.

In addition to the agricultural land within the City limits, there are several hundred acres of agricultural land under the Williamson Act contracts within the City's Sphere of Influence.

Private and Community Open Spaces. Private and Community open space land includes private properties with established open space use such as the Saratoga Country Club and Madronia Cemetery. Private lands such as Villa Montalvo are leased for public use.

Flood Easements. Flood easements along creeks within Saratoga are under the jurisdiction of the Santa Clara Valley Water District. A few portions are dedicated and owned by the District but large portions are still privately owned. The creeks and flood easements are important natural resources which contribute to the beauty of Saratoga.

Community Facilities and Church Sites. These sites typically are large, with a number of structures and wide open areas. The majority of these sites are located within residential areas and contribute to the perception of open space.

School Sites. Similar to the previous category, school sites contribute to the perception of open space in the neighborhoods in which they are located. In addition, school sites consist of playgrounds, many of which are used by the community through joint use agreements with the school district.

Saratoga is currently served by nine elementary schools, three of which are private, two high schools and a community college. The total school site land area is over 300 acres; over 100 acres of these areas are already devoted to open space and recreation use.

Parks. Twelve City parks are located throughout the City. The parks are at different levels of improvement. Most parks are used for neighborhood recreational activities. A number of these parks are used for City-wide activities. The total area of parks is over 70 acres. The City of Saratoga Park and Trail Master Plan evaluates the condition and the necessary improvements for each park in accordance with the needs of the neighborhood it serves.

Large Residential Lots. Saratoga is generally characterized by large lots with large yards which creates a sense of openness. These lots typically include a small portion occupied by structures and the remaining land is visually open. Much of this open space is used as private backyard area and is not usually open or accessible to the general public.

Vacant Undeveloped or Underdeveloped Properties. This category consists of vacant or partially vacant sites which are not designated as open spaces, but have scenic or other value as open spaces. These sites have the potential to be developed to a higher density in accordance with the City's General Plan and Zoning Ordinances.

The undeveloped hillsides within the City and its Sphere of Influence are included within this category. A number of large, vacant or partially developed hillside sites still exist within the City limits. Most of the undeveloped hillsides lie outside the City limits, a portion of which is included within its Sphere of Influence.

Regional Parks. Three major regional parks exist within or partially within the City's Sphere of Influence and are accessible to Saratoga residents. The three parks are Montalvo Arboretum, Stevens Creek Park and Sanborn County Park. These parks have a total of 1830 acres.

Montalvo Arboretum includes 175 acres of woodland in the hills straddling the southern boundary of the City. The majority of this open space is located within the County. The land is operated in trust by the Montalvo Association and is leased to the County on a long term basis. The site contains the Arboretum and recreational open space. The Villa, which provides cultural activities and programs, is owned and operated by the Montalvo Association. The park is maintained by the County with Federal assistance.

Stevens Creek Park is a multiple purpose park in Cupertino's Sphere of Influence. It is accessible to Saratoga residents by trail and scenic road. The park contains 655 acres.

Sanborn County Park is a part of a larger regional Skyline Park. The Skyline Park contains 1,000 acres and extends from Sanborn Park to Skyline Boulevard. It is one of a series of multiple-purpose recreation areas which complement Castle Rock State Park and create an undisturbed corridor along the scenic mountain highway.

MROSD OPEN SPACE LANDS

Midpenninsula Regional Open Space District (MROSD) is a governmental agency dedicated to the acquisition and protection of open space lands. The MROSD holdings include over 320 acres within Saratoga's Sphere of Influence.

OPEN SPACE ISSUES

The City's open space lands include open spaces which were dedicated as private or public open spaces. Other lands also serve as open space under their current use, but change of use may result in loss of these open spaces. This section will focus on the preservation of existing open space and the anticipated need for additional dedicated open space and parkland.

Land Under Williamson Act Contract. The existing Williamson Act Contracts within Saratoga may expire in the near future, thus increasing the potential and pressure for development on these parcels.

Private and Community Facilities. These properties are currently designated for use under the residential zoning category. Potential exists for more intensive development of the property in the future. For example, a portion of the Saratoga Country Club property is currently zoned Hillside Residential (HR). Under the current zoning, the property could be developed with single family homes.

School Sites. The 1990 U.S. Census indicates that Saratoga is experiencing a continuing aging of its population, with a reduction in the student population. This change in population may lead to the closure of some existing schools. The City has the right under the Naylor Act to purchase portions of this property at below market prices. The City should be alert and prepared to acquire those sites when opportunities and funds become available.

Large Lots and Private Yards. Much of Saratoga is developed in low density, single family neighborhoods. Past city policies have relied on this land use to provide necessary open space to the exclusion of acquiring public neighborhood parks. There is still demand and necessity for additional neighborhood parks and pockets of dedicated open spaces.

Hillside Lands within the City or its Sphere. These hills, and further away, the mountains, are valuable scenic open spaces which balance the growing urbanized areas. The conservation of these unspoiled open spaces with their scenic views and undisturbed wildlife habitat and native plants, as a permanent greenbelt around the City, is essential for the preservation efforts of the City's rural character and well-being. Insensitive developments endanger this last valuable natural resource. The preservation of ecological balance is essential for a better quality of life in the future.

Open Space Linkages. The City's existing open spaces and parkland are currently spread throughout the valley areas and the hillsides. However, the continuity of open spaces and connections through trail systems are important in order to enhance the scenic value, provide public access, maintain existing wildlife pathways and ensure the enjoyment of the open space system. Especially important is the connection of public facilities and parkland through a pedestrian trail system.

Parks. Although the City parks are located throughout the City, there are areas of the City without sufficient quantities of local open space. Higher density neighborhoods are particularly sensitive to the absence of open space. Development in the past, has been permitted on small lots without park land or open space dedications. It is important that active and passive recreation open space be provided on a neighborhood basis in reasonable proportion to the population in the area.

Trail System. There are a number of issues related to the City's equestrian and pedestrian trail systems. Dedicated trail easements which are not identified or improved, are not accessible to the public. Some trail easements are not interconnected within the

City area, and are not connected to the regional trail system. Public facilities and schools are not well connected by trails for pedestrian use.

OPEN SPACE GOALS

The Open Space Goals of the City of Saratoga are:

1. To provide and maintain open space resources of local and regional significance accessible to the public.

2. To preserve the hillside and mountainous land in its natural condition and inherent natural beauty.

3. To use open spaces to protect human life and property from natural hazards such as fire, flood, seismic, and geotechnical hazards.

4. To achieve and maintain a harmonious relationship between the natural environment and man-made structures and land uses.

5. To protect and conserve natural resources including watersheds, water quality, productive agricultural land, native vegetation and wildlife habitat, mineral land, archeological and historic sites and areas of ecological significance.

6. To encourage preservation of land uses for open space and agriculture.

7. To preserve the natural and rural character of Saratoga.

8. To preserve and protect existing view sheds, view corridors and scenic open spaces.

9. To create and maintain distinctive, attractive entrance ways reflecting the City's rural character and scale.

10. To ensure that any new development is sensitive to the natural environment and the community's open space resources.

11. To provide and maintain parks which are located, designed and improved to serve the needs of the residents, the community and the neighborhoods of Saratoga.

12. To provide and maintain a trail system which links open spaces, schools, public facilities, the Saratoga Village, and historic sites.

13. To encourage the awareness, appreciation and use of the City's open space resources in Saratoga's residents, particularly its youth.

14. To preserve and maintain existing open space resources.

15. To preserve open space and recreational resources provided on school sites and surplus school sites through acquisition and/or land use controls.

16 To preserve, protect and maintain riparian habitats and creek corridors.

OPEN SPACE POLICIES AND IMPLEMENTATION PROGRAMS

The City of Saratoga recognizes the value of open space for 1) the preservation of natural resources, including watershed lands, plant and animal life; 2) viewshed preservation; 3) recreational use; 4) the managed production of resources such as agricultural lands; and 5) the protection of public health and safety through open space designations which restrict development in areas where environmental hazards exist. The City will work to insure the preservation of valuable open space in perpetuity through private initiative, land use regulations and acquisitions.

GENERAL POLICIES

It is the policy of the City to:

1. Preserve, through a variety of methods, as much as possible of the open space areas described in the Open Space Element for visual greenbelts, conservation and management of environmental resources, public health and safety protection and for recreational use.

2. Prepare an Open Space Management Plan in conjunction with its Capital Improvements Program. The Plan would identify open space needs as well as the appropriate use and ongoing maintenance needs of open space areas.

3. Encourage and facilitate the participation of individuals, citizens, groups, civic organizations, and those having special needs, such as the physically disabled, in the open space planning process.

4. Improve and upgrade existing municipal open space, parks and trails to serve the current and future recreational needs of the community. These shall be consistent with preservation of open space.

5. Be vigilant in maintaining existing and future parks and dedicated open spaces to ensure that they remain part of the public domain in perpetuity.

UNINCORPORATED HILLSIDE AREAS

The unincorporated hillside area lying south and west of Saratoga is characterized by relatively steep sloping, wooded foothills. Vehicular access in the area is limited to small country roads. Most of the lands within the unincorporated area are in a natural state with minimal development. In the low foothills and within the hillside valleys there are scattered single family residences, typically on large lots, as well as residences related to agricultural operations. Existing uses are generally compatible with the rural, verdant nature of the area and are mainly agricultural and open space in nature. Such uses include recreational trails, vineyards and small winery operations, equestrian stables, pastures and grazing lands, ornamental nurseries and commercial timber growers. The most intense uses are a summer concert theater (Paul Masson Mountain Winery), Saratoga Springs picnic grounds, and Villa Montalvo.

The unincorporated foothills are of major importance to the City of Saratoga. The hillside area, although not a part of the City's corporate limits, is historically tied to the City by virtue of long-standing bonds between owners and residents of the hillside and the community. A portion of the unincorporated hillside is included in the City's Sphere of Influence and has the potential of being annexed to the City. The hills provide both a physical and visual backdrop to the community and represent the most significant open space resource in the entire City. Numerous possibilities exist for long term preservation of open space resources within these hillsides.

A portion of the hillside area has already been purchased by local governmental agencies as regional parkland.

Policies

6. Future Land Use. The City shall make a concerted effort to protect open space and manage future land uses within the unincorporated hillside area and shall apply the Residential Open Space (ROS) zoning district standards these lands become part of the City or the City's Sphere of Influence..

7. Agricultural Use. A significant component of the open space value in the foothill area comes from agricultural uses which have a long history of existence tied to the heritage of Saratoga. In evaluating future land uses, efforts shall be made to maintain agricultural lands as a component of open space and to preserve the rural and agricultural heritage of Saratoga. The City shall discourage the early cancellation of Williamson Act Contracts.

8. Public Use. Public use and enjoyment of the unincorporated hillside areas for recreational purposes, shall be encouraged through direct or indirect public land acquisition, encouraging both private and public recreational and agricultural uses. Appropriate regulation of privately held lands to obtain maximum use of open space resources, such as the establishment of trail and open space easements, should be consistent with conservation of the natural environment.

9. Appropriate Land Uses. Future land uses within the western hillside or any sphere of influence expansion area shall be consistent both with existing patterns of land use in the unincorporated hillside areas, and with the City's desire to maintain the area as predominantly open space and rural. These uses may include:

- City, county, state, federal or special district parks, nature preserves and resource protection areas.
- Private camp grounds, picnic areas and similar low intensity recreational uses.
- Non-residential, for profit uses, which invite members of the public to enjoy open space resources and amenities in a small scale, low impact manner.
- Residential uses which are environmentally sensitive and visually non-obtrusive. Residential development shall maximize open space protection.
- Agricultural uses, including vineyards, wineries, orchards, and pastures. Expansion of agricultural uses is encouraged in an environmentally sensitive manner.
- Existing recreational facilities.

Implementation Programs

a. Preservation of Open Space . The City of Saratoga should proceed to take the necessary steps to promote the preservation and maintenance of open space in the foothill area including, but not limited to, the following:

1. Pursue an cooperative agreement with the County of Santa Clara that will ensure Saratoga's ability to comment on development projects in the unincorporated hillside area, and;

2. If necessary to secure the ability to comment on development projects in the unincorporated area, pursue expansion of the Sphere of Influence, to include those areas with a strong relationship to the City due to visibility and/or the provision of infrastructure and services, and;

3. If the expansion of the Sphere of Influence is pursued, the City will apply the Residential Open Space (ROS) zoning district standards as the prezone classification for all lands outside of the existing Sphere of Influence, and;

4. Work with the Town of Los Gatos and the City of Monte Sereno to establish logical planning area boundaries pursuant to Local Agency Formation Commission (LAFCO) regulations.

b. Incentives to Agricultural Land Owners. The City should offer incentives to agricultural owners and operators as a way of continuing such uses. Incentives could include:

- Allowing the sale of agricultural products grown or produced on the site, as well as the resale of goods related to on-site operations (e.g. equestrian equipment).

- Residential density bonuses for significant investment in agricultural improvement (e.g.vineyards, wood lots or orchards) or open space dedications.

- Allowing additional dwellings on family farm operations when such additional dwellings will permit continuance of inter-generational agricultural uses consistent with Williamson Act provisions. This will not constitute a residential subdivision of the land under the Williamson Act.

- Modifying road construction standards in hillside agricultural areas. Curbs and gutters, which could interfere with agricultural operations, should not be required.

SCENIC OPEN SPACE

The City of Saratoga is characterized and blessed with natural beauty and scenic views. Natural and man-made landscaped areas, wide undisturbed views from the hillsides to the valley floor, beautiful private and public parks and unspoiled open spaces are irreplaceable components of the City's character. Protection of these valuable scenic open spaces is essential to preservation of the City's uniqueness and high quality.

Policies

10. Evaluation Criteria. In evaluating scenic open space for planning purposes, the City of Saratoga shall consider microscale, intermediate scale, and macroscale elements of each site, with the understanding that those sites which encompass all three scales may have the highest potential for providing quality scenic open space.

11. Hillside Development. The hillsides and the valley provide Saratoga with its prime macroscale views. Therefore, development must include careful study of the effect on scenic open space.

12. Existing Vegetation. The preservation of native and other vegetative species indicative of Saratoga's cultural heritage shall be given priority over development and provide for the perpetuation of such species. Fire safety shall be an important consideration when evaluating the preservation of native vegetation.

13. Natural Environmental Features. The preservation of the natural environment including geological and ecological features shall be encouraged.

14. Major Entryways and Arterials. The major entryways and arterials throughout the City shall be designed to enhance Saratoga's residential character and scale. Public health and safety shall be an important consideration in evaluating the design of major entryways and arterials.

15. Street Improvements. Open space objectives shall take precedence over the width and landscaping of roadways and the inclusion of curbs, sidewalks and gutters.

16. Parking Lots. The design of parking lots shall be evaluated for opportunities to reduce large continuous expanses of asphalt and to promote the establishment of visually interesting and aesthetically pleasing parking areas.

17. Acquisition of Scenic Open Space. The acquisition of scenic open space for park sites shall include an evaluation of the microscale, intermediate scale, and macroscale potential of each site.

18. Scenic Views and Trail System. The City's trail plan shall access as many natural views as possible, including hillside macroviews and microscale views.

19. Creeks. The City's creeks shall be preserved and restored where possible, as natural scenic views.

Implementation Programs

c. Hillside Development. In addition to the applicable city development standards, potential impacts to scenic views shall be evaluated prior to development. Criteria shall include but not be limited to the use of unobtrusive colors, controlled grading, limited disruption of natural vegetation, use of structural height limits, and structural design and density guidelines. Special consideration should be given to the eventual development of a canopy effect of tree growth.

d. Existing Vegetation. The City should provide information and assistance to the public in the preservation and care of native trees whose existence can be threatened by environmental stress and development.

e. Major Entryway and Arterials. A street tree planting, landscaping and maintenance program should be developed to encourage drought resistant, native vegetation to be planted and maintained throughout the City, especially in City owned and privately maintained rights of way.

f. Parking Lots. Large continuous expanses of asphalt should be limited by measures such as: overflow parking on pervious surfaces; an increase in the tree canopy coverage required; the encouragement of shared parking with adjacent and compatible uses.

g. Non-Scenic Unenhanced Views. Man-made, non-scenic or unenhanced views such as railroad and utility facilities and quarries should be enhanced insofar as possible by erosion control measures, landscaping, use of color, and other methods of scenic improvement.

h. Scenic Open Space Inventory. As a public reference, the City should prepare and update an inventory indicating all dedicated scenic open space resources in Saratoga.

TRAIL SYSTEM

The City of Saratoga stands as the gateway to the Santa Cruz Mountains. The City's rural character is reflected not only in the quality of the natural setting, but also in the spirit and interests of its residents. The City of Saratoga Open Space Survey indicated that walking and hiking are popular leisure time activities for residents of Saratoga. There is strong support for the provision of a comprehensive network of trails to provide recreational opportunities for walking, hiking, bicycling, and horseback riding. In addition to the recreational benefits of a trails system, such a network throughout the City of Saratoga reduces dependence on the automobile as it enables persons to walk or bike to school, the library, work, shopping and other activity centers.

The Southern Pacific Railroad right-of-way presents an opportunity for linear open space. The development of trails along this corridor, as well as the creation of connections to the regional network of trails and pathways which link many of the area's large regional parks, will give residents of Saratoga an unparalleled opportunity to enjoy significant open space and recreational opportunities in the baylands, hillside areas, and throughout the Santa Clara Valley.

The City of Saratoga encourages the establishment of a well planned, comprehensive trails network throughout the City. The following policies give specific direction for the establishment of this trails network.

In 1977 the City adopted the Master Trails and Paths Plan which was added to and amended the Circulation Element. The Master plan was updated and amended in 1991. This plan was coordinated to complement the existing County Trails and Pathways Master Plan.

Policies

20. Regional Trails Network. A regional system of hiking, bicycling and horseback riding trails shall be encouraged which includes trails within and between all City, County, State and regional parks, and other publicly owned open space lands, as well as trails providing access from the City of Saratoga to these lands.

21. Trail Acquisition Criteria. The City shall promote the acquisition of trails as a mode of access and for recreational purposes, through purchase, dedication or gift. The trails network should emphasize:

- Creating connections between neighborhood, schools, parks and public open spaces, historical sites and activity centers.

- Connections to the regional trails network.

- Acquisitions of trails that respect the rights of property owners as well as their privacy and security. Trails proposed for acquisition are identified on the Trails Map.

22. Coordination. Trail planning, acquisition, development, and management shall be coordinated among the various volunteer agencies and local, regional, state, and federal agencies which provide trails or funding for trails.

23. Traditional Trail Routes. Trails shall be established along traditional routes whenever feasible.

24. Development and Maintenance. Trail development, patrol and maintenance responsibilities shall be coordinated with all entities involved in each trail segment. In most cases, development responsibilities are borne by the property owner and maintenance activities are undertaken by the City. The City is encouraged to work with volunteer groups to maintain City trails.

25. Trail Location and Design. Trails shall be located, designed, and developed with sensitivity to the resources and environmental hazards of the area they traverse, as well as their potential impacts on adjacent lands and private property, including potential impacts to private property owners' privacy and security. Trails shall be designed to City specifications; require minimal grading; and include effective erosion control measures.

26. Development Controls. The City shall control land development along designated trails in order to provide sufficient trail right-of-way and ensure that new development adjacent to the corridors does not detract from the scenic and aesthetic qualities of the corridor.

27. Creekside Trail Restriction. The City shall not acquire, plan or develop trail easements or public access easements along Wildcat Creek or Saratoga Creek, across single or multi-family land uses as designated in the Saratoga General Plan abutting said creeks, or adjacent to said creeks between the centerline thereof and any single or multi-family designated property. This policy statement shall apply to Saratoga Creek from Prospect Avenue south to Tollgate Road, and to Wildcat Creek from Quito Road south to the Villa Montalvo Arboretum property line, with the exception of the section between Carnelian Glen Drive and Douglass Lane, as shown on the Trail System Map.

28. Access for the Disabled. Whenever feasible, trails shall be designed and developed to meet the accessibility needs of all segments of the population.

29. Trail Access. Trails shall be designed with adequate ingress and egress points to minimize the need for parking at trailheads. Parking should be designed to be as unobtrusive as possible.

30. Transportation Improvements. Transportation improvements, such as road widening and bridge construction, shall include bicycling paths, as indicated on the master bicycle pathways plan in the Circulation Element. Equestrian paths should be provided where necessary to complete connection to existing trail segments. Safe crossings shall be established where necessary.

Implementation Programs

i. Priority List. The City should develop and maintain a list of priorities for trail acquisition and trail development. This list should be coordinated with the appropriate agencies

j. Existing Trails. The City should develop and enhance existing trails and unimproved trail easements.

k. Project Review. Each new development project shall be reviewed in the field for proposed trail designations in accordance with the Trails Map. Dedications in fee or easements should be secured to insure a comprehensive trail system throughout the City.

l. Rails to Trails. The City should work for the future conversion of the Southern Pacific Railroad spur line as provided for in the Federal Rails-to-Trails law.

m. Bike Paths. Bike paths along City streets should be made safer through the use of signage, striping, maintenance, parking restrictions and other methods as appropriate. In designing these paths, recreational bike paths should be designed as distinct from high speed paths.

n. Trail Information. All trails should be marked. The City should provide readily available maps and information regarding the trail network. The City should sponsor an annual "Saratoga Trails Day" to inform all residents of the trails network and encourage its use and maintenance.

o. Motorized Vehicles. Use of motorized vehicles (with the exception of motorized wheelchairs) on hiking, bicycling, and horseback riding trails should be prohibited. Barriers shall be built to restrict motorized vehicles from trails.

p. Development and Maintenance. The City of Saratoga Public Works Department is responsible for supervising and maintaining all existing and future trails.

Creek Policies

31. Creeks are defined as perennial and intermittent watercourses.

32. Drainageways are defined as open hillside drainage swales which collect and concentrate stormwater.

33. Creek and Drainageway Conservation Zone is defined to consist of the watercourse or drainageway itself and surrounding banks on both sides, and a strip of land extending laterally outward from the top of both banks. The establishment of this Zone shall incorporate the Santa Clara Valley Water District (SCVWD) Zone for flood control, maintenance and emergency vehicle access, shall be in accordance with the California Regional Water Quality Control Board for San Francisco Bay Region's policies and guidelines and shall allow for variations depending upon existing land use and parcel size.

34. Establishment of a Creek and Drainageway Conservation Zone. The City shall establish a Creek and Drainageway Conservation Zone:

- To protect Saratoga's creeks and drainageways from pollution and erosion.
- To enhance and protect water quality.
- To provide adequate debris flow avalanche corridors.
- To preserve the natural character of creek corridors.

- To restore existing improved or altered creek corridors to their natural state consistent with flood control requirements.
- To preserve riparian habitat and wildlife corridors.
- To provide transition areas between inhabited structures and waterways to protect properties from damage due to stream bank undercutting and flooding.
- For the preservation of scenic views.

Implementation Program

q. Enhancement of Creeks and Drainageways. The City should work with the Santa Clara Valley Water District, neighboring jurisdictions, other non-neighboring jurisdiction including but not limited to the California Regional Water Control Board for the San Francisco Bay Region, the California Department of Fish and Game, and the United States Army Corp of Engineers, and landowners, as appropriate, to restore and enhance the creeks and drainageways to serve as wildlife habitats.

r. Creek Drainage and Conservation Zone. The City Code should be amended to include specific regulations regarding the limits of creek drainage and conservation zones.

LAND USE CONTROLS

Land use regulations such as the City's zoning ordinance and design guidelines, serve as important mechanisms for open space preservation. In Berman v. Parker, 348 U.S. 26 (1954) Justice William O. Douglas, speaking for the United States Supreme Court stated:

> "The concept of the public welfare is broad and inclusive. The values it represents are spiritual as well as physical, aesthetic as well as monetary. It is within the power of the legislature to determine that the community should be beautiful as well as healthy, spacious as well as clean, well-balanced as well as carefully patrolled."

Zoning is the primary instrument for implementing the General Plan policies. Permitted uses, development densities, minimum lot size, building height and setback limits, coverage, design, fence heights, parking, and other development parameters are zoning standards which can be used to allow controlled developments and land uses and to ensure preservation and conservation of open spaces and natural resources.

Policies

35. Valley Development. For infill development on the flatlands, the City shall consider compatibility with and sensitivity to the character of existing neighborhoods in order to minimize the perception of density and meet the open space needs of that neighborhood.

36. Hillside Development. For development on the hillside, open space and viewsheds can be preserved by techniques such as low density development, clustering, and dedication of open space as a condition of development. Critical viewsheds, ridgelines, and sensitive ecological habitats shall be identified and protected.

37. Colors and Materials. Development within the City of Saratoga shall consider contextual surroundings, including the impact on viewsheds, compatibility with nearby structures and architecture, and integration with the natural environment.

38. Mass and Bulk. All buildings shall be scaled, proportioned, and articulated so as to minimize the appearance of mass and bulk to maximize the perception of open space.

39. Development Patterns. The traditional low density zoning within the City of Saratoga shall be maintained.

OPEN SPACE ACQUISITION

Open space acquisition by the City is a necessary alternative to private initiative and land use regulations to preserve open space in Saratoga. It is important to have a proactive stance for buying available land. It is also important to have a mechanism in place to react quickly when choice parcels become available. Since the City is best able to move quickly with large sums of money needed for acquisition, private monies should be sought for help with preservation, development and maintenance after acquisition has occurred.

Criteria for Acquiring City Open Space

The City shall consider the following criteria when making open space acquisition decisions:

- Environmental health and safety issues (hydrology, geology, fire hazards, flooding).
- Scenic View (visual backdrop, unique site features, ridgelines).
- Biological resource conservation (wildlife habitat, endangered species).

- Protection of water quality.
- Historic/Landmark significance.
- Importance to the community as a whole or to adjoining neighborhoods.
- Neighborhood needs and interest.
- Maintenance and protection of privacy and private property.
- An equitable distribution and mixture of park lands, recreation facilities and programs throughout the community.
- Proximity to other open space areas.
- Recreation potential.
- Access to public open space.
- Development potential.
- Matching funds potential.
- Potential maintenance and management costs and liability exposure for the City.

Policies

40. Standards. The City shall maintain, and where possible improve, the existing inventory of three (3) acres per 1000 population of local public park and recreation facilities. The City should achieve (5) acres per 1000 population standard by the year 2001. The City incorporates by reference, the National Recreation and Park Association Standards (see appendix). These standards are to be used as a guide to identifying minimum goals to be achieved.

41. Conservation Easements. Open space, conservation or scenic easements and dedications shall be utilized to preserve open space lands and to protect critical areas in subdivisions. These areas shall include but not be limited to riparian areas, wildlife habitats and areas of mature native vegetation.in subdivisions.

42. Density Transfer. The City shall consider the creation of a density transfer system whereby assigned development rights in preservation districts are transferred by sale to property owners in designated development districts. The purpose of this system is to direct development away from significant environmental resources and toward appropriate locations.

43. Agricultural Land. The City strongly supports the use of Williamson Act contracts to preserve land in agricultural use. In addition, the City shall consider the formation of an Agricultural Land Trust to acquire the development rights of lands currently in agricultural use in order to prevent the loss of such lands to urban development. The City shall also consider the purchase of agricultural land for leaseback to farmers.

44. Funding. The City shall establish and maintain a coordinated funding program for neighborhood and community parks and open space acquisition. The City should pursue all means available including private donations and dedications, private land trusts, State, Federal and other grant sources, use of assessment districts, bond issues, development requirements, user fees, public/private joint ventures and all other means to insure park and recreation facilities are available for all City residents.

45. Acquisition Legislation. The City should support the enactment of Federal, State and local legislation intended to facilitate city's ability to acquire the surplus property of public agencies for parks, open space and recreation purposes.

46. Open Space System Coordination. The City shall coordinate the City's open space system with adjacent cities and county, state, regional and private open space systems. The City shall encourage and seek agreements with other governmental jurisdictions such as the Mid-Peninsula Open Space District, for the purpose of funding acquisitions, and coordinating the improvement, maintenance and use of open space.

47. Dedication Acceptance by other Agencies. The City encourages the County and other public agencies to accept dedications of open space lands of regional significance, including water sheds, wildlife habitats, woodlands, historic sites, and scenic lands.

48. Public Utility Rights-of-Way. The City encourages the Santa Clara Valley Water District, the Pacific Gas and Electric Company and other public agencies and utilities to provide for safe and appropriate open space uses of their respective properties and rights-of-way.

Implementation Programs

s. Dedications and In-Lieu Fees. The City shall require the sponsors of new residential housing to provide for the open space needs of future residents of that development in accordance with the Saratoga Park and Open Space standards and Quimby Act Parkland Dedication Requirements. Needs may be satisfied by the dedication of land and development of recreation facilities to serve the new residents. In-lieu fees may be considered when, during project review, it becomes clear that dedication and development of parkland is not a feasible or appropriate option.

t. New Funding. The City may consider expanding the existing Landscaping and Lighting District, and consider increasing the business license, utility, construction and

transient occupancy taxes to fund open space acquisition and development. Final approval of any increase for the purpose of open space acquisition and development shall be subject to a majority vote of the citizens of Saratoga.

u. Sale, Lease, or Use Agreements. The City should provide that all funds derived from the sale, lease, or use of City-owned park or open space be exclusively used for park or open space acquisition, capital improvements, or operation and maintenance costs so that the balance of use remains constant.

v. School Property. The City should utilize the provisions of the Naylor Act to increase recreational opportunities. The City should continue to explore the potential for establishing agreements with the school districts for the joint use of school property for public recreational uses.

w. Voluntary Contributions. The City should develop a program to encourage voluntary dedications, grants of land, monetary contributions or gifts in kind to the City for parks and open space.

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CONSERVATION ELEMENT

The Conservation Element offers a brief physical description of each of the basic resources (land, water, air) together with the plant and animal life they support, available to Saratoga. An examination of the local use characteristics of these resources is included along with any current or potential problems resulting from the misuse of these resources.

Natural Resources

Land

There are two basic land resources to conserve in Saratoga and its Sphere of Influence, undeveloped and agricultural. Eighty-five percent of the land in the City is already developed. In addition to the 1,167 potentially developable acres in the City, there are 9,480 acres which are essentially vacant in the Sphere of Influence. Together, this represents the possibility of substantial change in the area in the future. Whether or not this change will enhance or detract from the present character, depends a great deal on the timing and location of new development.

The agricultural holdings in the City of Saratoga, include more than 268 acres of land. Of this total, 216 acres have been designated agricultural preserves under the Willimason Act. The intent of this act is to avert the premature development of prime agricultural lands to residential or other more intensive use. The act permits a lower County tax assessment based on land use rather than development potential. The Williamson Act also includes tax exemptions for designated open space. This provision of the act has been used to a limited extent in the Sphere of Influence. Eligible property owners in the City and Sphere of Influence should be encouraged to place their holdings under contract.

Mineral Extraction

Mineral resources in the Saratoga vicinity are limited primarily to sandstone and shale. Currently, there are no mines or quarries known to be operating in Saratoga or its Sphere of Influence. There are, however, several abandoned sites which have been left in an unsightly state. Most of these are isolated and are not, as yet, offensive to any neighboring development. Quarries will be improved through the development approval process to mitigate downstream impacts. The old County quarry is one exception and has been landscaped by the County to screen from view the bare excavation site overlooked by adjacent residential development.

Geologic Hazards

The land's capability of supporting development varies greatly throughout Saratoga and its Sphere of Influence. While many areas offer problem-free development sites, many others are plagued with hazards such as soil erosion, landslides, subsidence, and severe earth shaking. Much of the Sphere of Influence, in particular, is characterized by unstable soil conditions made even more hazardous to development by the steepness of the terrain.

The San Andreas Fault, which crosses through Saratoga's Sphere of Influence, presents another serious hazard to any development within the fault zone. A major earthquake along the San Andreas Fault is expected to occur in the next several decades. In 1906, Santa Cruz Mountain residents suffered losses resulting from ground displacement, ground shaking, and landslides. During smaller earthquakes, the same phenomena may occur, however, with far less intensity and extent.

The Safety and Seismic Safety Elements of the General Plan and the Specific Plan for the Northwestern Hillsides more specifically define the geologic hazards existing in Saratoga and its Sphere of Influence.

Flood Control

Saratoga is located in the North Central Zone of the Santa Clara County Flood Control District. Creeks in the City that are under District jurisdiction are Calabazas, Rodeo, Saratoga, Wildcat, and San Tomas. In general, flooding from these creeks has been confined to the rather narrow flood plain directly adjacent to the creeks. In the past, however, homes have been constructed in these flood plains which may be subject to severe damage. Flooding of the Saratoga, Calabazas, and San Tomas Creeks caused over $1.5 million in damage between 1955 and 1958. In January of 1982, a severe storm affected the entire peninsula causing tremendous damage. The City lost a portion of an access road into Wildwood Park, but other than that, there were no major problems resulting from flooding. Several of the City's creeks have been widened and deepened to improve their water carrying capacity.

The Flood Control District's main activities in Saratoga have been the routine maintenance of channels, including silt removal, clearing of underbush and other debris, and erosion control.

Saratoga citizens have expressed disapproval of any plans to channelize the natural watercourses, arguing that aesthetic values should take precedence over flood control. In response to this, the Flood Control District has suggested that adequate flood plains be established which would include less land on either side of the creek bed but would require some dike or levee construction paralleling its banks.

In mid 1974 the City passed a Resolution which authorized its citizens to purchase flood insurance under the provision of the Federal Flood Insurance Program Act. In addition to the insurance, the City conditions subdivisions to improve streams or drainage ways to prevent flooding. The Flood Control District is notified of any proposed development that might impact a Flood Control District stream.

New development in Saratoga and its Sphere of Influence will intensify runoff, putting an even greater strain on the local flood control network. Continued cooperation between the City and the Flood Control District will ensure the maintenance and protection of the flood control network.

Water Resources

Supply

Domestic water is supplied to Saratoga by the San Jose Water Works, a private company serving central Santa Clara County. At the present time, water is available from two sources: local wells and streams, and purchased water from the Oroville Dam via the California aqueduct. Well and stream water is purified at the San Jose Water Works treatment plan in Los Gatos. Purchased water is negotiated through the Santa Clara County Flood Control and Water District and purified at their Rinconanda Treatment Plant. In normal years, about 66 percent of the total water supply come from wells, 12 percent from streams, and 22 percent is purchased. The Water District has indicated that its water supply limit could be reached by 1985 if the San Felipe Water Supply importation project is not available by that time.

The San Jose Water Works does not supply water to areas more than one lift (300 feet) above the City's service system. Groups of property owners in the Sphere of Influence buy water from the Water Works and pump it to higher elevations.

Before parts of the Sphere of Influence or the western hillsides are opened up to further development, arrangements will have to be made to provide an adequate and economical source of water.

Pollution Control

Water quality in Saratoga has always been considered satisfactory and contamination of the water table has not, as yet, been a problem. Septic tanks are still used by some developments in the outlying areas of the City and remain a potential problem.

All of Saratoga except the northwest third is in County Sanitation District No. 4. The balance of the City is served by the Cupertino Sanitation District. Both Districts have been involved in converting septic tanks to sewer systems. At present, about 95 percent of Saratoga is served by sanitary sewers. Both Sanitation

Districts have indicated they will have adequate capacity with their existing main and trunk lines to handle projected future development. However, this is dependent on the San Jose/Santa Clara Treatment Plant's condition. The Plant's treatment capacity is being improved to avoid the service overflows during the summers of 1976 and 1980 which damaged the water quality of the southernmost portion of the San Francisco Bay.

Air Resources

Local Climate

Temperatures in the Santa Clara Valley are typically warm in summer, under mostly clear skies, with cool nights. Winter temperatures are mild, except for very cool but generally frostless mornings. Rainfall amounts are modest.

Wind patterns in the Valley are influenced greatly by the terrain, resulting in a prevailing flow roughly parallel to the Valley's northwest-southeast axis. Wind speeds are greatest in the spring and summer, and least in the fall and winter seasons. Strong winds are rare, coming only with an occasional winter storm.

Air Pollution

Because of its configuration and location downwind of the major urban centers, the entire Santa Clara Valley is severely prone to air pollution. Dilution of pollutants emitted in the Santa Clara Valley is restricted laterally by terrain boundaries and vertically by frequent temperature inversions.

Although no air contaminant readings have been taken in the immediate Saratoga vicinity, recent figures for Mountain View, Santa Clara, and San Jose suggest that Saratoga may be subject to increasing pollution problems. Several industries in the San Jose Area have already been cited by the Bay Area Pollution Control District for exceeding State standards. These sources, conceivably, have on occasion adversely affected Saratoga's local air quality. Saratoga, however, is thought to benefit from somewhat stronger windflows influenced by the nearby terrain. Up valley channeling of the coastal onshore winds results in a northwest prevailing wind.

A major polluter in the vicinity of Saratoga is San Jose Airport. In terms of contaminant emission, San Jose Airport is the smallest of the three major Bay Area facilities. Its location and configuration, however, are such that contaminant levels recorded at selected sites already exceed those for Oakland International Airport. Based on projected increases in air traffic, maximum airport emissions at San Jose may reach levels nine times those which existed in 1974. State and Federal Air Pollution Standards are not met in the Bay Area. The Association of Bay Area Governments and other governmental agencies developed an Air

~~Quality Plan for the Bay Area. This plan contains a strategy for the attainment and maintenance of air qualtiy standards. The air quality problems addressed are ozone, carbon monoxide, and suspended particulates and how the emission of these pollutants can be reduced from both stationary and transportation sources.~~

Vegetation Resources

Natural Areas

Saratoga and its Sphere of Influence are characterized by a vast and impressive array of flower, shrub, and tree species. The landscape varies on the foothill and mountain slopes from dry chaparral to larger woodland, where stands of various hardwoods the Coast Redwood predominate.

The Montalvo Arboretum covers 175 acres of woodland which extends up into the City's Sphere of Influence. Within the park confines there are almost two dozen identified plant species: the Arboretum offers citizens and visitors the finest opportunity available to view a comprehensive collection of native plants in their natural setting.

Although air pollution in some areas of California is known to have seriously blighted evergreen forests, the vegetation in the Santa Cruz Mountains has not yet shown any symptoms of that problem. Douglas Fir is thought to endure air pollution fairly well and Redwood, very well; it is the Pine which seems most susceptible to pollution concentrations.

Wildfire is an ever present danger in all mountain areas, and the Santa Cruz Mountains are no exception. The high fuel content of the vegetation, the steep terrain, the low humidity during the dry, hot summers all contribute to the rapid spread of potential fires. The areas which have the highest fuel content and the steepest slopes are often the most difficult to reach with fire equipment.

Urbanized Areas

To maintain Saratoga's scenic and rural character, efforts must be made to preserve and supplement the natural landscaping on developable sites. Buildings should be located particularly to spare large trees. A case in point is the specimen heritage trees located east of Farwell Avenue, along Wildcat Creek. Saratoga's predominance of large lot development should make this practice less difficult than in higher density communities.

Wildlife Resources

The Santa Cruz Mountains harbor many species of reptiles, amphibians, birds and mammals. In addition to the more common varieties, several rare species are known to live in these mountains or to regularly frequent the area in search of food and shelter. Many of these animals are already considered endangered species and have been placed on the "protected list" by the

Federal government. Among these are the California Condor and the mountain lion. Others expected to be added to this list soon are two rare amphibians, the Tiger Salamander and the Red-Legged Frogs, and the Golden Eagle. Wild boar and wild turkey, also in limited numbers, are occasionally seen in various rural sections of the County.

Because the San Francisco Bay is a regular stop-over along the Pacific Flyway, many types of shore and wading birds, ducks, and geese are often seen throughout Santa Clara Valley. The greatest threat to these birds is the indiscriminate shooting which takes place in and out of season. The County Fish and Game Commission is charged with the enforcement of local regulatory ordinances.

At the present time, the only wildlife preserve in the Saratoga area is the 175 acre Montalvo Arboretum which extends up into the City's Sphere of Influence. The Arboretum is an official Audobon Society sanctuary for birds; over seventy-five varieties of birds have been identified on the property, together with numerous varieties of rare plants and insects. The grounds of the Montalvo Arboretum are maintained by the Santa Clara County Parks Department.

CULTURAL RESOURCES

Saratoga has a vivid history dating back to 1846 when Bill Campbell and his sons established a sawmill on Quito Creek. The discovery of mineral springs in the area soon prompted development of several luxurious spas, reminding local residents of similar eastern spas. From this memory came Saratoga's name. Orchards were planted and covered the land until the late 1940's when they began to be replaced by homes.

Today, over 125 years since the City's founding, only a few remnants remain to remind citizens and visitors of Saratoga's interesting heritage. In many cases, unfortunately, buildings or sites of buildings with historical significance are generally unknown. Other known landmarks lack any real explanation of their significance. It is the responsibility, and should be the desire, of the City to promote evidence of its cultural heritage by designating and well publicizing its historical features. These features should be considered a valuable resource in that they, taken as a whole, are a legacy entrusted to the community for proper development and conservation.

In recognition of the historic character of Saratoga, the City has adopted a Historic Preservation Ordinance to protect the irreplaceable heritage resources. The Ordinance creates a Heritage Preservation Commission to inventory historic resources, recommend to the City Council specific resources which should have historic designations, and act as an advisory body to the City Council, Planning Commission, and other agencies as to the impact of proposed new development on historic resources.

In addition to City landmarks dating back to the last century, several archeological sites have been identified in the Saratoga area. Two specific sites have been logged by the State Archeological Inventory Survey on or near Saratoga Avenue, adjacent to the Saratoga High School. Other, more general areas have been indicated by archeologists to contain potential sites requiring further investigation.

I. SEISMIC SAFETY AND SAFETY ELEMENT

The Seismic Safety Element is a mandatory element of the General Plan, required by SB 351, an act which became law on February 23, 1971. Saratoga adopted its Seismic Safety Element in 1974. The Seismic Safety Element identifies and appraises seismic hazards such as geological instabilities, earth movements, and the ability of man made structures to withstand these conditions. It examines the increased hazards of fire and flooding which may be induced by seismic forces; it appraises existing emergency services; and develops criteria for types and intensities of proposed land use in undeveloped areas.

The background geotechnical data for the Seismic Safety Element of the Saratoga General Plan appears in the Saratoga Geotechnical Report, 1974. Included here are the recommendations and evaluations of the geotechnical data and the remaining required elements of the Seismic Safety Element.

Summary of Geotechnical Findings

After extensive evaluation of seismic events and geologic features, it was apparent that there were large areas of the City and its Sphere of Influence which had similar bedrock and soil characteristics, ground rupture potential, ground stability, and flooding characteristics. These areas of similar geotechnical characteristics were called geotechnical terrain units. There are five such terrain units in Saratoga and its Sphere of Influence (Terrain Unit Map). They are numbered from I-V and are called in numerical order San Andreas Rift (I), Foothills (II), Saratoga Mt. (III Skyline (IV), and Valley Floor (V). Important seismic problems in the study area are the San Andreas Fault, rift zones, fracture lines, unstable surficial soils, and steep slopes.

The geotechnical data was evaluated on the basis of terrain unit and general conclusions drawn for each unit. Terrain unit I cannot support urban residential development but very limited rural residential development based upon site specific geotechnical studies. The County General Plan for the area indicates that hazard areas must be placed in permanent open space. Terrain unit II can support controlled urban residential development and rural residential development with site geological and soils investigations required. Terrain unit III cannot support urban residential development but can support rural residential development with site geological and soils investigations required. Terrain unit IV will not support urban residential development but will support rural residential development with geological and soils investigations required. Terrain unit V will support urban residential development. Geological investigation is not necessary, but soils investigations should be required. (More specifics on each terrain unit are available in the Geotechnical Background Report. This information is supplemented by the Geology and Soils section of the Northwestern Hillside Specific Plan.)

Seismic Activity's Effect

Saratoga's residents are cognizant of the threat of earthquake destruction, as are all Californians, and many have experienced periodic earth tremors. The proximity of the San Andreas Fault, which passes through Saratoga's Sphere of Influence, subject large sections to the probability of severe lateral displacement and the whole area to ground-shaking, should an earthquake occur. Development in areas of extreme faulting is sparse, however, utility lines cross the fault and will undoubtedly be affected by seismic activity. The major threat to persons in both the City and the Sphere of Influence is structural failure of buildings and/or failure of slopes due to shaking. Because of the steep slopes, network of fault lines and alluvial plain, it is essential to enforce strict earthquake construction and soil engineering standard to select the most stable areas to build on, and to compensate for soil instabilities by approved engineering and construction techniques.

Ground Movement Potential Maps and a Geologic Hazards Analysis of the northwestern hillsides (see the Specific Plan for that area) have been prepared by the City Geologist and indicate in general those areas of potential hazard. The information prepared by the City Geologist generally informs the public about potential seismic or ground movement hazards but is not meant to replace geotechnical studies for individual sites necessary prior to development. Stringent procedures in approving or regulating development of potentially hazardous areas must be enforced. A workable emergency plan is needed to maintain order and provide for the needs of displaced, injured, and isolated residents in the event of earthquake to distribute food and water should the normal channels of distribution be severed or sources contaminated.

Much of the risk to Saratoga from the threat of earthquake can be avoided by limiting development in hazardous areas, and by enforcement of building standards and soil engineering needs. Emergency services presently provided are directed to and are intended to abate these risks. Damage to buildings cannot be eliminated, but they can be constructed to prevent their collapsing immediately upon impact of lateral forces.

II. SAFETY

The Safety Element is a required element of the General Plan. It is concerned with threats to human life and property from: fire, geological activity, seismic activity, flooding and combinations of these hazards; and with dangers which might result from poor emergency service, difficult access, and lack of preparedness and public information.

The Safety Element complements the Land Use, Conservation and Seismi Safety Elements of the General Plan and its findings are a valuable input into the process which determines where development should t-'- place.

Definition of Risk

Determining how much hazard is permissible is certainly judgmental and unavoidably value-oriented. Generally, there are three kinds of risk which face local government; (1) assumable risk, a level of risk sufficiently low that local government finds specific action unnecessary; (2) unassumable risk, a level of risk at which action is necessary to protect life and property; and (3) avoidable risk, risk which need not be taken because individual or public objectives can be achieved at the same or less cost by other means without taking the risk. Which risks fall into each of these categories is determined by local government.

There are, however, some general standards which provide governments with some guidance for determining how much or what degree of risk they are willing to assume.

Standards for Determining Risk

Fire - Development in areas of fire hazard should be guided by such requirements as: fire-resistant building construction and materials, space between structures, available water supply, fire-resistant plant materials, quality of year-round fire-fighting service, available evacuation routes, access routes level enough for fire equipment use, and firebreaks (and maintenance of breaks) in brush areas. The City has adopted by resolution a map indicating special requirements for roof materials. (See Hazards Overlay Map in Appendices)

Geologic - Geologic hazards are unavoidable in California; however, some geologic conditions represent greater hazards than others. Faulting and unstable bedrock present great risk and should be avoided, while surface instabilities can often be engineered to make construction safe. When unstable soil combines with steep slope development, despite engineering, it is hazardous and the environment is endangered by landslides.

Seismic hazards traverse the State. Major faults have been located and indicate areas of avoidable risk. Setbacks should be established to prohibit development near or on fault lines. Hazards increase in areas where seismic activity combines with areas of potential flooding, poor soil drainage, unstable surficial soil and steep slope, fire hazard, and deteriorated structures. These hazards facing every Californian can be mitigated by requiring basic standards; use geotechnical and soil studies to determine the suitability of land for development, require necessary engineering in areas of hazard, have emergency services available, establish evacuation routes, educate the public for individual preparedness, and be eligible for emergency funds to assure speedy restoration of normal activity.

Flooding - Unassumable risks from flooding are most likely to occur in the area subject to flooding by the flood of record in the past 100 years. Residential development should not be permitted in this flood plain unless previously approved by SCVWD or the structures are adequately protected by raising the finished floor elevation above the flooding elevation. Saratoga has an extensive review procedure established with SCVWD which addresses flooding potential and development.

Hazards and Related Emergency Service and Operation

Fire - The zoning and fire preventive ordinances of the City of Saratoga guard against fire hazards resulting from poorly spaced or constructed buildings or from excessive vegetative fuel. In addition to its regulations, the City is adequately served year-round by the Saratoga Fire Department and the Central Fire District of Santa Clara County. Response time, except during rush hour traffic congestion, is only minutes to any section of the City. A state mandated mutual aid agreement provides back up for City services in the event of a major fire in the City or the adjacent Sphere of Influence. The City's water supply is adequate for fire-fighting, coming from three sources and local storage of 62.27 million gallons (SJWW 1-82). Additionally, the City requires new developments to prove that they have a minimum water flow of 1,000 GPM for a two hour duration. The Specific Plan for the northwestern hillsides calls for a water assessment district in order to meet the 1,000 GPM requirement.

The fire hazard in the Saratoga Sphere of Influence is considerably higher than in the City. Ground cover is highly combustible in this area. Two forest service ranger units, Saratoga Summit and Stevens Creek Reservoir, provide coverage of the area during the summer months. The major problems in fire fighting in the Sphere are areas of steep slope and intense vegetative cover and spectators who block access routes. Currently the two fire units in Saratoga cover fires in the Sphere during the winter months when widespread vegetation fires are less likely. Additional residential development in the Sphere of Influence will require better year-round fire service for the area.

Flooding

The last major flood affecting Saratoga was in 1958. The SCVWD improves the channels when funds are available and are very active in the development review procedure within Saratoga. As a result, flood damages have been mitigated over the years. Residents within the City are subject to minor flooding, but these problems are being corrected through conditioning of tentative subdivision maps.

Flooding is unlikely in the Sphere of Influence. Even if the Lake Ranch Reservoir Dam collapsed, the resulting flow would not exceed a 100-year flood. The lands in the Sphere are steep enough to carry water speedily to the City, where flooding would occur.

The Santa Clara Valley Water District has established an Emergency Operations Center at the District office to gather and disseminate information, to evaluate potential and existing flood and earthquake conditions, and to advise local communities of corrective measures indicated. The SCVWD Coordinates actions when dual responsibility seems to be involved and operates as a liaison to County, State, and Federal offices of emergency functions.

The SCVWD is "on alert" from October 1 - May 1 and threatening conditions will put respective units on standby. During flood emergencies, 24 operational bases will be scattered throughout the County.

Utilities

American Telephone and Telegraph has a computerized monitoring system to indicate exact locations of destroyed lines. Service is usually restored within hours even when a whole area is affected. If central facilities are destroyed, a portable central office can be moved in. Priorities for restoration of services go to doctors and similarly needed persons. The phone company bears the expense of all repairs.

Western California Telephone Company serves the southwest corner of Saratoga and its Sphere of Influence. For emergency preparedness, mobile units are ready to take over temporary operations. While not as sophisticated as the larger PT&T computer network, service is usually restored rapidly.

In time of earthquake, affected areas are inspected and equipment and personnel are dispatched for necessary repairs or actions to protect the public. When the County emergency office is activated, water distribution is coordinated by FDC, at which time priorities are no longer based on contracts, but on need.

Since eligibility for Federal funds requires a statewide expenditure of $5 million on disaster prevention in the preceding 12 months, the Flood Control District takes, and encourages all other utilities and services to take, all necessary preventive actions needed for the safety of the people.

The SCVWD has created the position of Public Information Officer to prepare news releases to inform the news media and Emergency Center Staff of impending danger and progress of emergency actions. The Plan includes a heirarchy of responsible officials to call up in an emergency.

SJWW does not have a detailed plan for emergency operations but does have designated trained personnel to be notified in the event of an emergency. The utility considers the best preparation for an emergency to be knowledge about how the system works.

Several safety measures diminish the risk of the system breaking down: stand-by power sources are provided to all computerized controls and monitors; loss of power automatically shuts off water; steel pipes are flexible, while sewage lines are several feet lower than water lines. Water comes to Saratoga from four different locations, Saratoga Creek, Los Gatos Creek impounding dams, 125 wells in the North Central District, and the Flood Control Rinconada Treatment Plant. It is unlikely all sources would be shut off simultaneously. Restoration of service would be prompt although a limited reserve of replacement equipment might cause some problems.

The problem of water supply in the Sphere of Influence, however could become acute. In the summer, when streams are dry, dependence on private sources might be inadequate for emergency needs. There are several small reservoirs, two 10,000 gallon redwood storage tanks often used by the Forestry Division, occasional wells and the large Lake Ranch Reservoir which, under proper organized distribution, could provide for human needs. Closely related to water problems in an emergency are sewage problems. Both the Cupertino Sanitation District and District No. 4 of Santa Clara County which serve Saratoga are included in the Santa Clara County Emergency Plan.

The Sanitation officials felt that a disaster of sufficient impact to disable sewage systems would be of a magnitude to greatly impair other services and massive reconstruction efforts would be necessary.

SPHERE OF INFLUENCE

Access and Evacuation Routes

Access and evacuation routes in the Sphere of Influence may be seriously affected by ground rupture and slides. In extreme emergencies, helicopters may be the only way to bring supplies to isolated people or to evacuate them. Santa Clara County uses helicopter support from Moffett Naval Air Station or 6th Army at Presidio based on the severity of the emergency (January, 1982). State resources would be necessary in a large scale emergency, because the County lacks the facilities required to evacuate large numbers of people from isolated areas. Activating State emergency services inevitably involves a delay. This is the main reason it is important that the City maintain a current emergency plan. The City could then initiate local emergency operations immediately. These operations would then be coordinated with County and State operations, should they become involved.

Access and evacuation routes in the City, although subject to severe damage, are numerous enough to make destruction of all of them unlikely. The City, through the land development process, has conditioned many subdivisions to have an emergency access.

Individual Preparedness

Earthquakes give no warning. Prepared persons can take a few precautions which will hold them in good stead in time of earthquake. In addition, there are several post earthquake actions, which will reduce panic and ignorance of what to do in time of earthquake.

1. One or more members of a family, or household, should have first aid training, and Cardio-pulmonary Resuscitation Training (CPR).

2. All family members should know the location of main switch and valves and how to turn off electricity, gas and water supply. (P.G.&E meter men are competent in demonstrating these operations for those who are not familiar with them.)

3. A ration of food and water, a flashlight, a first aid kit, and a battery-powered radio should be set aside for use in emergencies immediately after an earthquake. Water may still be available for several hours, so it should be collected and stored in containers.

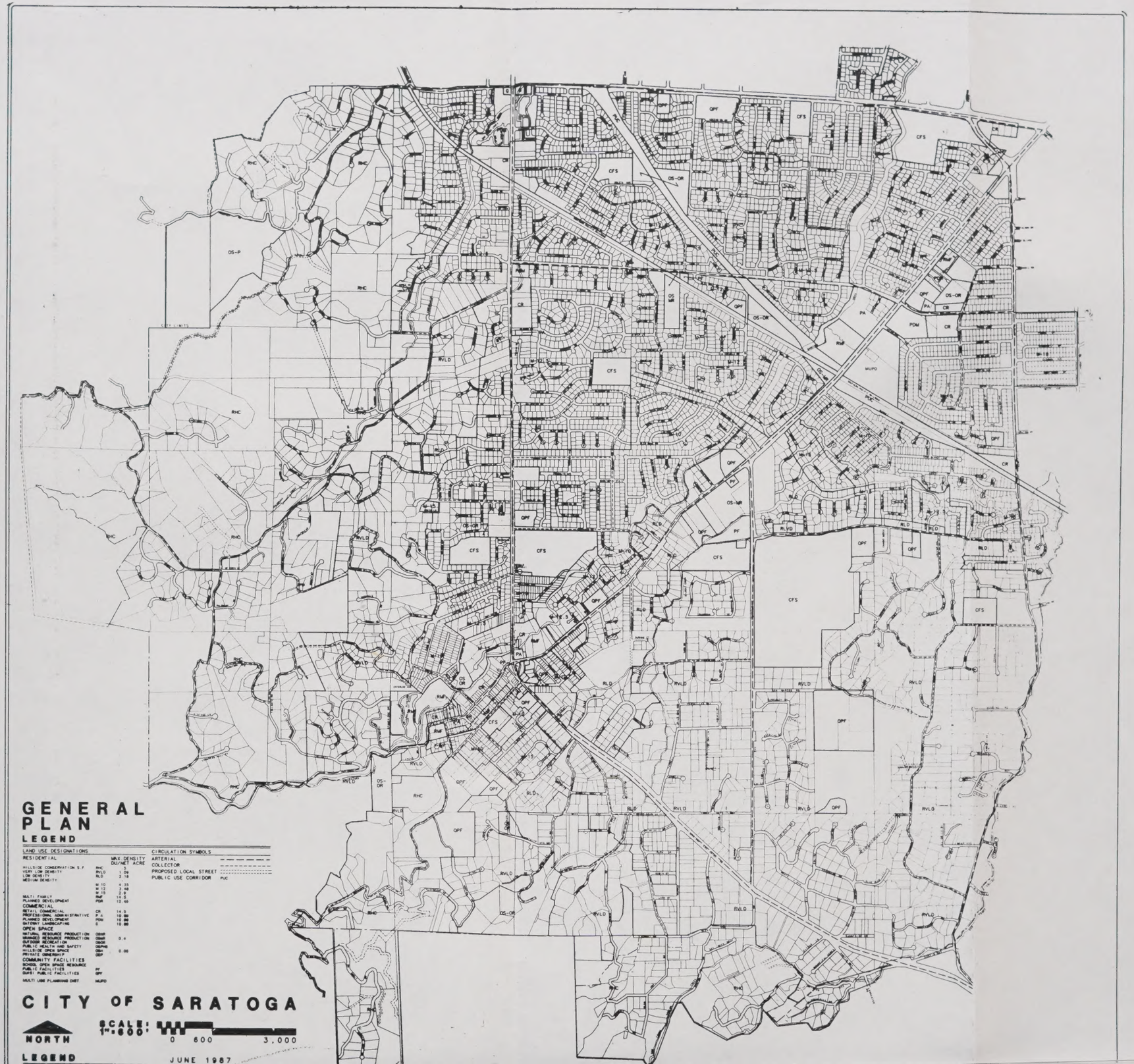
4. Furniture, such as bookcases and storage cabinets, should be fastened to the wall; the largest and heaviest objects should be placed on lower shelves. Water heaters and other appliances should be firmly bolted down, and flexible connections used whenever possible.

5. A more detailed list should be acquired from the local Red Cross Chapter.

City Emergency Exercise

The City should continue to participate in City and County-wide exercises which test the current plan. The conduct of emergency planning should not be left only to the employees of the City, but should be the responsibility of the entire City.

Saratoga's geographical location is not conducive to total County support. Therefore, the citizens should be prepared to play a major role in civil preparedness planning.


GENERAL PLAN
LEGEND
LAND USE DESIGNATIONS
RESIDENTIAL
MAX. DENSITY DU/NET ACRE
HILLSIDE CONSERVATION S.F. RHC .5
VERY LOW DENSITY RVLD 1.04
LOW DENSITY RLD 2.18
MEDIUM DENSITY
M-10 4.35
M-12 3.40
M-15 2.9
MULTI FAMILY RMF 14.5
PLANNED DEVELOPMENT PDM 12.66
COMMERCIAL
RETAIL COMMERCIAL CR 14.5
PROFESSIONAL ADMINISTRATIVE P.A. 10.88
PLANNED DEVELOPMENT PDM 10.88
GATEWAY LANDSCAPING G 10.88
OPEN SPACE
NATURAL RESOURCE PRODUCTION OSNR
MANAGED RESOURCE PRODUCTION OSMR 0.4
RECREATION OPEN SPACE OSOR
PUBLIC HEALTH AND SAFETY OSPHS
HILLSIDE OPEN SPACE OSH 0.08
PRIVATE OWNERSHIP OSP
COMMUNITY FACILITIES
SCHOOL OPEN SPACE RESOURCE
PUBLIC FACILITIES PF
QUASI PUBLIC FACILITIES QPF
MULTI USE PLANNING DIST. MUPD
CIRCULATION SYMBOLS
ARTERIAL
COLLECTOR
PROPOSED LOCAL STREET
PUBLIC USE CORRIDOR PUC
CITY OF SARATOGA
NORTH
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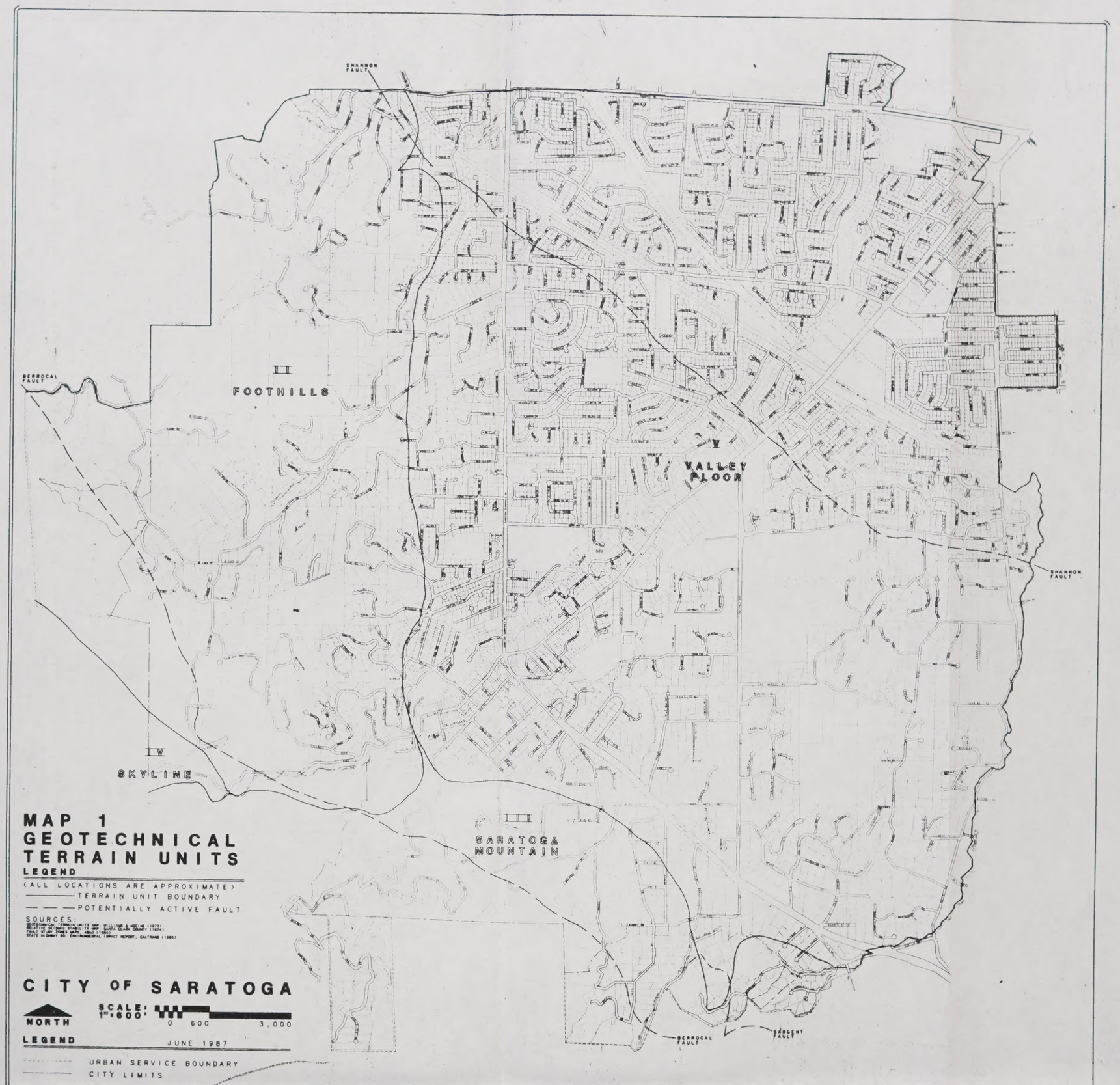
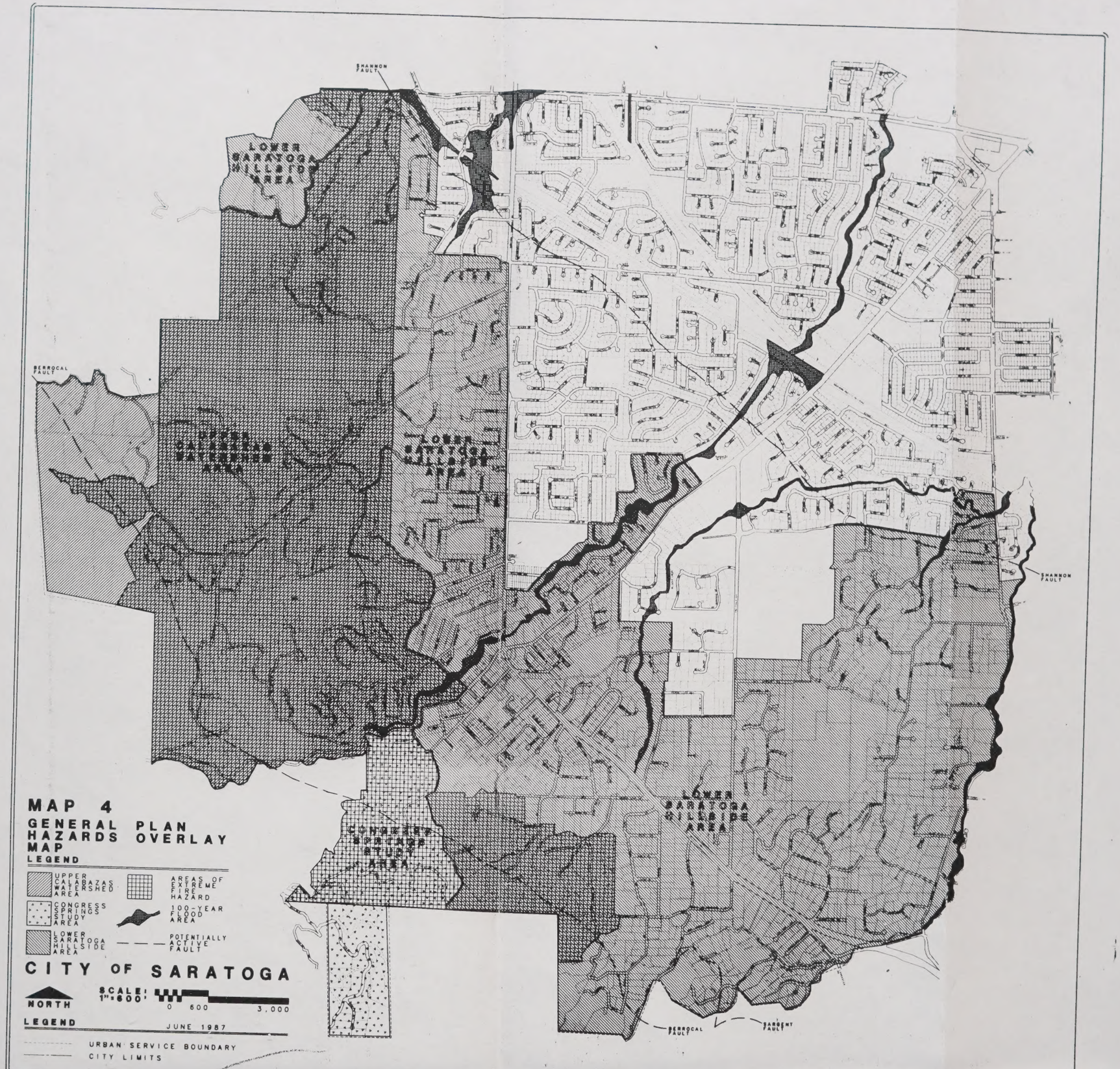
LEGEND
JUNE 1987


SHANNON FAULT
BERROCAL FAULT
II
FOOTHILLS
I
VALLEY FLOOR
SHANNON FAULT
IV
SKYLINE
III
SARATOGA MOUNTAIN
BERROCAL FAULT
SARGENT FAULT
MAP 1
GEOTECHNICAL
TERRAIN UNITS
LEGEND
(ALL LOCATIONS ARE APPROXIMATE)
TERRAIN UNIT BOUNDARY
POTENTIALLY ACTIVE FAULT
SOURCES:
GEOTECHNICAL TERRAIN UNITS MAP, WILLIAMS & HOLLIS (1973)
RELATIVE SEISMIC STABILITY MAP, SANTA CLARA COUNTY (1974)
FAULT STUDY ZONES MAPS, ABAG (1980)
STATE HIGHWAY 85: ENVIRONMENTAL IMPACT REPORT, CALTRANS (1980)
CITY OF SARATOGA
NORTH
SCALE: 1"=600'
0 600 3,000
LEGEND
JUNE 1987
URBAN SERVICE BOUNDARY
CITY LIMITS


II
FOOTHILLS
CITY LIMITS
VALLEY FLOOR
III
SARATOGA MOUNTAIN
IV
SKYLINE
MAP 2
GROUNDMOVEMENT POTENTIAL AND RELATIVE GEOLOGIC STABILITY
FOR LEGEND SEE ATTACHED SHEETS
NOTE:
(ALL LOCATIONS ARE APPROXIMATE. THIS MAP IS TO BE UTILIZED AS ONLY A GUIDE FOR MORE SITE SPECIFIC ANALYSIS.)
CITY OF SARATOGA
NORTH
SCALE: 1"=600'
0 600 3,000
JUNE 1987
LEGEND
URBAN SERVICE BOUNDARY
CITY LIMITS
SOURCES:


MAP 3
LANDSLIDE AND
FLOOD AREAS
LEGEND
(ALL LOCATIONS ARE APPROXIMATE)
OLD LANDSLIDE OR LANDSLIDE COMPLEX
NEW LANDSLIDE OR LANDSLIDE COMPLEX
100-YEAR FLOOD AREA
CITY OF SARATOGA
NORTH
SCALE: 1"=600'
0 600 3,000
LEGEND
JUNE 1987
URBAN SERVICE BOUNDARY
CITY LIMITS
SOURCES:


SHANNON FAULT
LOWER SARATOGA HILLSIDE AREA
BERROCAL FAULT
UPPER CALABAZAS WATERSHED AREA
LOWER SARATOGA HILLSIDE AREA
SHANNON FAULT
CONGRESS SPRINGS STUDY AREA
LOWER SARATOGA HILLSIDE AREA
BERROCAL FAULT
SARGENT FAULT
MAP 4
GENERAL PLAN
HAZARDS OVERLAY
MAP
LEGEND
UPPER CALABAZAS WATERSHED AREA
AREAS OF EXTREME FIRE HAZARD
CONGRESS SPRINGS STUDY AREA
100-YEAR FLOOD AREA
LOWER SARATOGA HILLSIDE AREA
POTENTIALLY ACTIVE FAULT
CITY OF SARATOGA
NORTH
SCALE: 1"=600'
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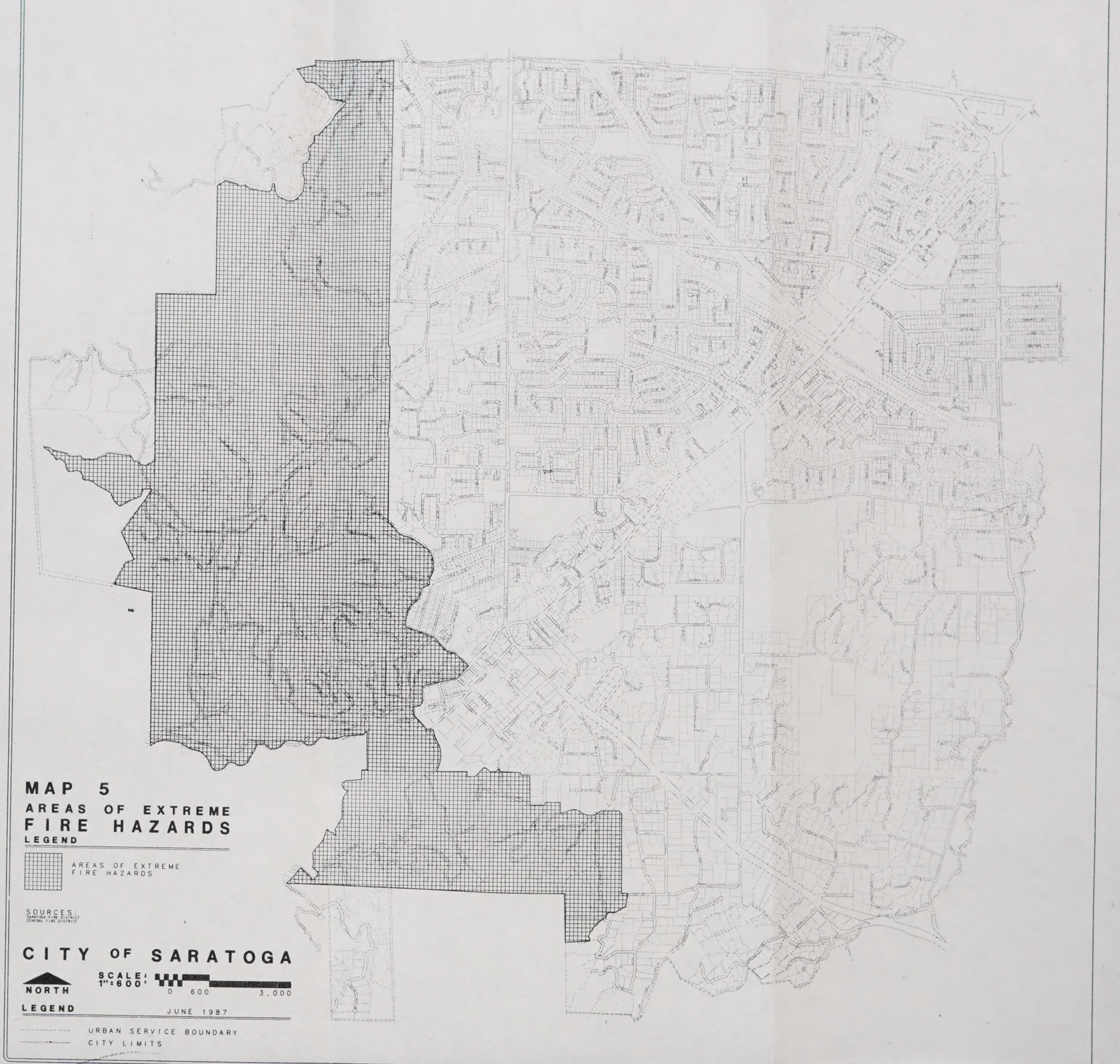
LEGEND
JUNE 1987
URBAN SERVICE BOUNDARY
CITY LIMITS



MAP 5
AREAS OF EXTREME FIRE HAZARDS

LEGEND

AREAS OF EXTREME FIRE HAZARDS

SOURCES:
SARATOGA FIRE DISTRICT
CENTRAL FIRE DISTRICT

CITY OF SARATOGA

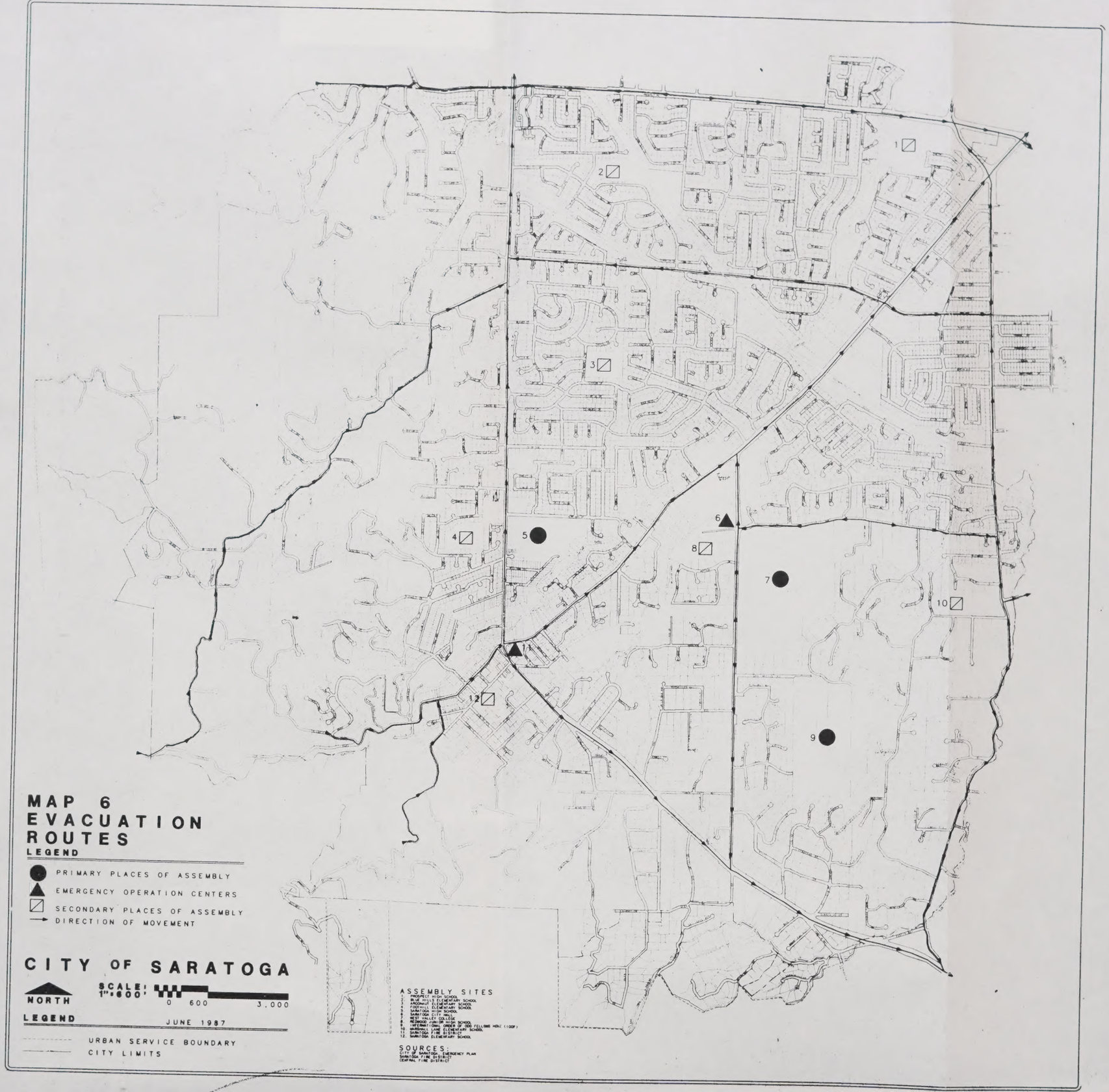
NORTH

SCALE: 1" = 600'
0 600 3,000

JUNE 1987

LEGEND

URBAN SERVICE BOUNDARY
CITY LIMITS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12
MAP 6
EVACUATION
ROUTES
LEGEND
PRIMARY PLACES OF ASSEMBLY
EMERGENCY OPERATION CENTERS
SECONDARY PLACES OF ASSEMBLY
DIRECTION OF MOVEMENT
CITY OF SARATOGA
NORTH
SCALE:
1"=600'
0 600 3,000
LEGEND
JUNE 1987
URBAN SERVICE BOUNDARY
CITY LIMITS
ASSEMBLY SITES
1. PROSPECT HIGH SCHOOL
2. BLUE HILLS ELEMENTARY SCHOOL
3. ARGONAUT ELEMENTARY SCHOOL
4. ARGONAUT HIGH SCHOOL
5. SARATOGA HIGH SCHOOL
6. SARATOGA CITY HALL
7. WEST VALLEY COLLEGE
8. REDWOOD JUNIOR HIGH SCHOOL
9. CITY OF SARATOGA CORPORATION YARD (FELLOWS HOUSE (ROOF))
10. WARNOCK LANE ELEMENTARY SCHOOL
11. SARATOGA FIRE DISTRICT
12. SARATOGA ELEMENTARY SCHOOL
SOURCES:
CITY OF SARATOGA EMERGENCY PLAN
SARATOGA FIRE DISTRICT
CEARFAIL FIRE DISTRICT